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NATIONAL

OCCUPATIONAL

CLASSIFICATION

Career Handbook

Second Edition
(Revised)

Canada

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Career Handbook

Second Edition
(Revised)



LM-410-05-03E

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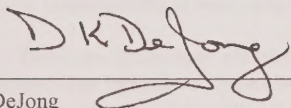
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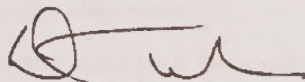
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Preface

The *Career Handbook*, the counselling component of the National Occupational Classification (NOC) system, was first published in 1996 as a companion document to the 1993 edition of the NOC. In the ensuing decade, research was undertaken to update and revise the classification for the 2001 Census. During this time, Canada witnessed an evolution of the labour market that brought many changes to the nature of work. These new developments have been integrated into NOC 2001 to ensure its currency and relevancy for Canadians. The most significant changes are found in the area of information technology, which enabled the advent of globalized communications systems such as the Internet, wireless communications and the capabilities for electronic commerce and publishing. The impacts of these global developments are evident in the labour market in many ways. Some examples include new job titles, different ways of working, the use of equipment and software for innovative purposes and the emergence of new kinds of products and services.

The revisions to the NOC have also been incorporated into the second edition of the *Career Handbook* to ensure that a cohesive system continues to assist those working with clients in understanding the occupations of the Canadian economy. To better understand the developments in the labour market and the resulting changes made to the classification, it is suggested that users read the Introduction to NOC 2001. The revisions represent considerable improvements to the organizational framework of the classification and impact positively on data collection and statistical interpretation of trends in the economy. These modifications are present at the unit group, or four-digit code, level of the NOC where occupational data is collected for statistical purposes. Users will notice several new occupations in the professional and technical skill levels of information technology and the amalgamation of certain occupations in other areas of the classification. At the end of this Preface is a table summarizing these structural changes.

Based on the revisions to the classification structure, the 897 groups presented in the original edition of the *Career Handbook* have now increased to a total of 923 groups. Consistent with the previous edition, these groups are derived from the NOC unit group descriptions. The occupational profiles for counsellor use and interpretation appear as either four-digit group, or five-digit subgroup, presentations.

The modifications to the classification and to the *Career Handbook* update this counselling resource to the extent possible when describing a dynamic phenomenon such as the labour market. At the same time, the new trends and transformations in the Canadian workplace, while substantial, underline the inherent stability that is demonstrated in the performance of work. The same foundational competencies and worker characteristics operate in today's world of work as they did in the past, allowing workers to adapt to different kinds of knowledge and skills demanded by the new economy.

The Descriptor Scales of the *Career Handbook* are as valid now as they were at first publication, and there was no need expressed to adopt different Descriptors for this revised edition. Indications from the field suggest that these scales are both effective in communicating pertinent details about work performance in occupations and in connecting that information to the characteristics of workers. Counsellors and other professional intermediaries using the *Career Handbook* have become familiar with the Descriptors presented in the profiles and rely on this resource to support them in facilitating their clients' understanding of work, jobs and occupations in the Canadian labour market.

While the Descriptor Scales have not been replaced or revised, the definitions of a few of the Descriptor levels have been modified. The intention of these changes is to bring more clarity to the differences between certain levels and to incorporate the concept of information systems and virtual objects where it was not previously explicit. Other modifications clarify the explanations of the assignment of certain ratings. The original meanings of all the factors and levels have been retained.

The Introduction to the second edition of the *Career Handbook* is virtually unchanged from the original with the exception of minor changes for compatibility with NOC 2001 and for clarification of rating methodology. Users are encouraged to read both the Introduction and the Descriptor Definitions sections to reacquaint themselves with the underlying principles supporting the counselling profiles and to note how some definitions have been refined.

It was considered appropriate to provide a high degree of consistency between the original and the second edition to minimize the difficulty in understanding and dealing with those changes necessitated by the evolution in the labour market itself. The revised edition of the *Career Handbook* offers counsellors and other professionals a solid and familiar resource for developing an understanding of the overall labour market and a detailed conceptualization of the work performed in occupations throughout the economy. With this understanding, they will be able to provide clients with the necessary information to help them make appropriate decisions and take positive action in their career exploration and development.

Structural Changes to the Unit Groups of NOC 2001

New Unit Groups		
2171	Information Systems Analysts and Consultants	New – Information technology group includes some occupations that were classified in former unit group 2162, Computer Systems Analysts.
2172	Database Analysts and Data Administrators	New – Information technology group at the professional skill level.
2173	Software Engineers	New – Includes some occupations that were classified in unit group 2147, Computer Engineers.
2174	Computer Programmers and Interactive Media Developers	New – Includes some occupations that were classified in former unit group 2163, Computer Programmers.
2175	Web Designers and Developers	New – Information technology group at the professional skill level.
2281	Computer and Network Operators and Web Technicians	New – Information technology group at the technical skill level that includes occupations classified in former unit group 1421, Computer Operators.
2282	User Support Technicians	New – Information technology group at the technical skill level.
2283	Systems Testing Technicians	New – Information technology group at the technical skill level.

Modified or Deleted Unit Groups

0721	Facility Operation and Maintenance Managers	Modified – Now includes occupations from former unit group 0722.
0722	Maintenance Managers	Deleted – Occupations now included in unit group 0721.
1411	General Office Clerks	Modified – Now includes occupations from former unit group 1412.
1412	Typists and Word Processing Operators	Deleted – Occupations now included in unit group 1411.
1421	Computer Operators	Deleted – Occupations now included in new information technology unit group 2281.
2162	Computer Systems Analysts	Deleted – Occupations now included in new minor group 217 for information technology occupations at the professional level.
2163	Computer Programmers	Deleted – Occupations now included in minor group 217.
3223	Dental Technologists, Technicians and Laboratory Bench Workers	Modified – Now includes occupations from former unit group 3412.
3412	Dental Laboratory Bench Workers	Deleted – Occupations now included in unit group 3223.
3414	Other Assisting Occupations in Support of Health Services	Modified – Now includes occupations from former unit group 6631.
4214	Early Childhood Educators and Assistants	Modified – Now includes occupations from former unit group 6473.
6443	Casino Occupations	Modified – Amusement attraction operators, formerly part of this group, now included in unit group 6671.
6473	Early Childhood Educator Assistants	Deleted – Occupations now included in unit group 4214.
6631	Elemental Medical and Hospital Assistants	Deleted – Occupations now included in unit group 3414.
6641	Food Counter Attendants, Kitchen Helpers and Related Occupations	Modified – Now includes occupations from former unit group 6642.
6642	Kitchen and Food Service Helpers	Deleted – Occupations now included in unit group 6641.
6671	Operators and Attendants in Amusement, Recreation and Sport	Modified – Amusement attraction operators, formerly from unit group 6443, now included here.
7265	Welders and Related Machine Operators	Modified – Now includes occupations from former unit group 9515.
9515	Welding, Brazing and Soldering Machine Operators	Deleted – Occupations now included in unit group 7265.

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THE GROUPS OF THE *CAREER HANDBOOK*

Introduction

The *National Occupational Classification* and the *Career Handbook*

Career and employment counsellors are aware of the substantial changes in the labour market over the last two decades that are the result of complex, global influences. The labour market is dynamic and characterized by transition and elasticity as it responds to these forces. Workers need to adapt continually to changing career demands as some skills become obsolete and new ones are required. Lifelong learning is an essential component of work as individuals train and retrain to accommodate these skill shifts.

The *National Occupational Classification* (NOC), first published in 1993 and revised for Census 2001, was designed to reflect the effects of these pervasive changes in occupations and work. The NOC is the product of systematic, field-based research by Human Resources Development Canada (HRDC). Its content and organization identify recent changes in the labour market and, along with its counselling component, the *Career Handbook*, provide information about occupations in Canada. A more detailed description of the development and revision of the NOC classification system and its structure is contained in the Introduction to NOC 2001.

Counsellors should note the difference between the definitions of an “occupation” and a “job” when using the NOC and the *Career Handbook*. An “occupation” is a theoretical concept which includes specific types of skills and responsibilities held in common by those who work in an occupation. A “job” on the other hand, is defined as a specific position in a particular establishment. An occupation is a collection of similar jobs. The list of example titles within each NOC unit group provides a frame of reference for the boundaries of that occupational group. The jobs within the group are characterized by a homogeneity or similarity of skills.

To make sense of current trends in the labour market, it is important to focus on occupations rather than jobs, and on skills rather than the specific tasks of individual jobs. Identifying the fundamental similarities of skills within an occupation allows users to examine concepts such as occupational mobility, transferability of skills and career shifts in today’s labour market.

To provide a complete representation of work in the Canadian economy, the NOC classifies occupations in major groups, according to two primary dimensions of skill – skill type and skill level. The major groups, which are identified by two-digit numbers, are then broken down further into minor groups with three-digit numbers and unit groups with four-digit numbers or codes. Within these three levels of classification, a unit group provides the actual profile of an occupation. The 2001 edition of the NOC contains descriptions for 520 occupations or unit groups.

The structure of the *Career Handbook* is identical to that of the NOC with one modification. In many cases, the NOC unit group has subgroup descriptions of Main Duties. In order to help users identify the differences between subgroups, the *Career Handbook* provides a unique occupational profile for each subgroup with a digit after a decimal point. For example, NOC unit group 5121 Writers, has three subgroups in its Main Duties section – Creative Writers, Technical Writers and Copywriters. In the *Career Handbook*, each of these subgroups has its own occupational profile – 5121.1 Creative Writers, 5121.2 Technical Writers and 5121.3 Copywriters. As a result, the Handbook contains 923 distinct groups derived from the 520 in NOC 2001.

For the purposes of this Introduction, each occupational group in the *Career Handbook*, whether an original NOC unit group or subgroup, is referred to as a group.

Purpose of the *Career Handbook*

Finding understandable information about the entire world of work and how it is organized can be difficult. The purpose of the *Career Handbook* is to provide useful, reliable and accessible information about occupations to counsellors and their clients.

The *Career Handbook* has been developed by occupational researchers, analysts and trained raters. The ratings assigned to each group are global and describe the occupation with respect to skills and other variables to provide important indicators for career exploration. The Handbook will help counsellors and their clients investigate occupations and make informed career decisions.

The *Career Handbook* is intended for career counselling, development and exploration purposes. HRDC neither condones nor recommends the use of this information for other purposes. The profiles presented here are *not appropriate* for other uses such as screening applicants for particular positions or determining insurance benefits. The data *do not* replace the use of criterion-referenced testing to establish performance requirements for work as it occurs in the labour market. There are three major reasons for this limitation:

- The conceptual foundation of the NOC and the Handbook is occupations, not jobs. An occupation is a collection of similar jobs that share some or all of a set of Main Duties. The tasks of specific jobs vary from establishment to establishment.

- The rated information in the Handbook is not based on experimental data collected from representative samples of the employed labour force for the occupations of the NOC.
- Development of the NOC and the Handbook did not include the collection of data on specific working conditions for jobs contained within occupational groups of the NOC.

A Guide to the *Career Handbook* Groups

Each group is presented in the form of an occupational profile that provides a holistic picture of the occupation with certain elements emphasized for counsellor interpretation. Each group is displayed on two pages with standardized sections.

The sample group in this Introduction, 2212.1 Geological and Mineral Technologists, is representative of the treatment of all the groups in the Handbook. The following guide explains each section consecutively beginning with the code at the top of the left-hand page and ending with the final column of information on the right-hand page.

A Guide to the *Career Handbook* Groups

Occupation Code, Title and Introductory Statement

The **occupation code** appears at the top of both pages of an entry. It is either identical to the four-digit NOC unit group code, or it has a digit added after a decimal identifying it as a subgroup of the original NOC unit group.

The **title** of the group follows the code on the first page. The titles are either those of the original NOC unit group or are taken from the Main Duties subgroup descriptions.

The **introductory statement**, which provides a general overview of the occupation, is taken from the lead statement of the NOC unit group. When there are subgroups, this same pattern is followed.

Profile Summary

This section identifies all the ratings in an abbreviated alphanumeric format, providing counsellors with a quick overview of the nature of the occupation.

A Synopsis of Descriptors and Labels as well as Descriptor Definitions provide detailed information on the factor ratings, their labels and levels. These sections are located following the References at the end of this Introduction.

Descriptor Profile

Main Characteristics: Aptitudes, Interests, and Worker Functions

The Descriptor Profile provides, in narrative form, the Main Characteristics of an occupation by describing its predominant aptitudinal, interest and functional elements.

The Descriptor Profile highlights the **aptitudes** most relevant in the performance of the work. They are based on the same theoretical principles and level configuration as that of the predecessor of the NOC, the *Canadian*

Examples of Job Titles

The NOC and the *Career Handbook* do not provide an exhaustive list of job titles. The list provided in the group indicates the most commonly used titles in an occupation across the country. This list also presents a conceptual boundary around an occupation by identifying the range of job titles contained within a group.

2212.1 Geological and Mineral Technologists

Geological and mineral technologists may work independently or provide technical support and services in the fields of oil and gas exploration and production, geophysics, petroleum engineering, geology, mining and mining engineering, metallurgy, extractive and physical metallurgy, metallurgical engineering and environmental protection.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	3	3	3
INTERESTS								
O10								
DATA/PEOPLE/THINGS (DPT)								
231								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
3	1	2	3	1	2			
ENVIRONMENTAL CONDITIONS (EC)								
L1, L3, H1, H2, D3								
EDUCATION/TRAINING								
6, 4, 3								

Examples of Job Titles

assayer
geophysical technologist
groundwater technologist
marine geoscientist technologist
metallurgical technologist
mining engineering technologist
mining technologist
petroleum engineering technologist
welding technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct geological, geophysical, hydrographic and oceanographic and prospecting surveys, and exploratory drilling, well logging and underground mine survey programs; and to conduct or assist in environmental audits, in the design of measures to minimize undesirable environmental effects of new or expanded mining and oil and gas operations, and in the development of waste management and other related environmental protection procedures, may conduct studies and programs related to mine development, mining methods and mine ventilation, lighting, drainage and ground control

- **Verbal and numerical ability** to prepare reports, and to prepare, transcribe and interpret diagrams, grammatical, well log and other geophysical and survey data
- **Spatial and form perception** to prepare notes, sketches, geological maps and cross sections; may develop specifications for heat treatment of metals and welding; may design welding fixtures and troubleshoot welding processes and quality problems
- **Objective interest in precision working** to operate and maintain geophysical survey and well logging instruments and equipment, and to perform physical and chemical tests

- **Innovative interest in analyzing** geophysical and survey data to assist engineers and geologists in the evaluation and analysis of petroleum and mineral reservoirs; may assist engineers and metallurgists in specifying material selection, metal treatments and corrosion protection systems; may assist hydrogeologists in evaluating ground water and well circulation
- **Directive interest in supervising** prospecting field to ps, exploratory drilling, geological survey programs and studies, and the preparation and of rock, mineral and metal samples; may supervise oil and gas well drilling, well completions and workovers and welding projects

Classification and Dictionary of Occupations (CCDO), Volume 2. Aptitude ratings are further discussed in the Descriptor Definitions and Rating Methodology sections.

The **interests** for the occupation are assigned in order of predominance. Interests are based on the *Canadian Work Preference Inventory (CWPI)*. They are highlighted, along with worker functions (**Data/People/Things - DPT**) as further qualifiers, to describe the involvement that a worker in the occupation will have with data/

information, people and things. DPT is adopted from the scales used in the CCDO.

This interpretative narrative is based on the Main Duties narrative of the NOC unit group descriptions as well as on the assigned ratings for the above-mentioned scales. For some groups derived from NOC subgroups with little information, research, secondary sources and the CCDO were used to provide additional narrative content. The CCDO information is generally from Volume 2, which identifies skills rather than specific job tasks.

Physical Activities and Environmental Conditions

The Physical Activities and Environmental Conditions scales follow the Main Characteristics. Refer to the Remarks section for the explanation of asterisks (*) used in both these scales.

Since there is no direct link between the ratings in these sections and the content presented in the NOC's Main Duties, it was not possible to incorporate them into the narrative. However, they are an

integral part of the Descriptor Profile for the occupation and provide important information for counsellor use.

The ratings for Physical Activities factors in an occupational profile do not indicate that persons with disabilities can or cannot perform the duties of that occupation. However, counsellors of clients with disabilities may find the information useful in terms of considering workplace accommodations that would enhance their client's employability.

Occupational Options

For most occupations there is some form of mobility such as transferability, lateral mobility, upward progression and specialization. Although these patterns of mobility are different, their presence indicates that there are skills or competencies that can be adapted from one occupation and applied to another. This section identifies the possibility for worker mobility within the group or the potential to move to other occupations.

Similar Occupations Classified Elsewhere

This section is taken from the NOC and identifies occupations which are similar to, and may be confused with, the group. These similar occupations are referenced with NOC unit group codes. In some instances the information refers to individual titles within unit groups, or to the actual unit groups themselves.

Remarks

The Remarks section provides free-standing comments as well as statements for Physical Activities and Environmental Conditions ratings that appear with an asterisk (*). Free-standing comments, which precede statements about ratings, usually provide information related to specializations for an occupation.

An asterisk for a Physical Activity rating will appear after that rating. There are no asterisks under Physical Activities in the sample group – 2212.1 Geological and Mineral Technologists. However, if an asterisk appeared beside Strength 2 Light, it would affect the meaning of the rating. Strength 2 Light – indicates that Strength for the occupational group as a whole is 2, which has the label Light. The presence of an asterisk would indicate that some jobs within the group have a rating of 3, which is labelled Medium. In general, an asterisk for Physical Activities indicates a level up for the rating.

For Environmental Conditions, an asterisk indicates that the potential condition in a group is limited to some jobs, not the occupation as a whole. For example, in 2212.1 Geological and Mineral Technologists, the asterisk for Hazards H8* Dangerous locations – indicates that this is a potential hazard for some but not all jobs within the group.

Note to Users: The sections entitled Occupational Options, Similar Occupations Classified Elsewhere and Remarks will not appear on the layout of a group when there is no information to report in these sections.

2212.1 Subgroup 1 OF 2	
Physical Activities Vision 3 Near and far vision Colour Discrimination 1 Relevant Hearing 2 Verbal interaction Body Position 1 Sitting, standing, walking Limb Co-ordination 1 Upper limb co-ordination Strength 2 Light Environmental Conditions Location L1 Regulated inside climate L3 Outside Hazards H1 Dangerous chemical substances H8* Dangerous locations Encounters D1 Ouburs	Employment Requirements Education/Training 6, 4, R • Geological and mineral technologists usually require completion of a two- to three-year college program in geological technology, petroleum engineering technology, hydrogeology or groundwater technology, mining technology, mining engineering technology, metallurgy, metallurgical technology or welding technology. • Geophysicists technologists usually require completion of a two- to three-year college program in electronics technology. • Certification in geological and mineral technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required by employers. • In Quebec, membership in the regulatory body is required to use the title of Professional Technologist. • A period of supervised work experience, usually two years, is required before certification.
Workplaces/Employers Consulting geology and engineering firms Educational institutions Governments Manufacturing, construction and utilities companies Petroleum and mining companies	Occupational Options There is limited mobility between occupations in this group. Mobility may be possible between geophysical technology and electronic technology. Mobility may be possible between some occupations in this group and related fields of civil engineering technology. Similar Occupations Classified Elsewhere Civil Engineering Technologists and Technicians (2211) Electrical and Electronics Engineering Technologists and Technicians (2241) Mapping and Related Technologists and Technicians (2255) Supervisors, Mining and Quarrying (8221) Supervisors, Oil and Gas Drilling and Service (8222) Technologists and technicians whose primary duties are to perform chemical laboratory tests (in 2211: Chemical Technologists and Technicians)
	Remarks *Environmental Conditions • For some occupations in this group, Hazards H8 (Dangerous locations) may also apply

Employment Requirements

In this section, the employment requirements from the NOC unit group are assigned indicators to provide a numerical reference for counsellors. The Education/Training Indicators identify a hierarchical order for types of education and training, and also incorporate two other criteria represented by "+" and "R" where applicable. These symbols indicate that requirements other than education and training are relevant for the occupation.

Workplaces/Employers

In this section, the *Career Handbook* takes the information on establishments and industries of employment from the lead statement of the NOC unit group, and condenses it into a list. The information is not exhaustive but identifies the most common work settings for the occupation.

Rating Methodology

The ratings in the *Career Handbook* were assigned by trained occupational analysts using a modified Delphi procedure. The goal of Delphi methodologies is to establish group consensus about unknown quantities or events. Ratings were based primarily on the Main Duties for each NOC unit group, but consideration was also given to the applicability of particular ratings for each job title listed as an example.

Statements in the Main Duties indicating that a unit group “may” undertake a specific duty or task were considered as less significant in assigning the rating, since this duty or task would apply only to some workers in the group.

After all unit groups had been rated, they were reorganized by ratings. For example, raters were presented with all unit groups coded as Location L1 (Inside regulated climate) or Vision 1 (Close visual acuity). Reorganization of the unit groups in this manner allowed for the identification of anomalous ratings and appropriate recoding.

The ratings on the Descriptor Scales address the criterion of skills for each occupation in the NOC classification system. In addition, this information provides some continuity with the CCDO. The Aptitude and DPT ratings were based on the compilation of seven-digit CCDO groups within NOC unit groups. The ratings assigned to groups reflect the most frequently occurring levels for aptitudes and worker functions for the CCDO compilations. These ratings were then subjected to the consensus procedure to accommodate, primarily, changes in technology in the workplace and the NOC’s occupational structure.

The Physical Activities and Environmental Conditions scales are revised scales that provide optimum information for the occupational emphasis of the NOC but maintain links to the scales used previously. These scales also provide a greater degree of delineation and specificity than the former scales.

The Interests and Education/Training Indicators represent new directions that diverge from the CCDO and reflect different theoretical principles. The CWPI is a five factor interest inventory that bases its ratings on the nature of the activities performed in an occupation. The three most relevant factors are assigned to each occupation in order of predominance. The CWPI does not propose a personality theory as the basis of ratings.

Education/Training Indicators reflect different types of education, training or combinations of these criteria, either required or possible, for entering occupations rather than the amount of time spent in training programs. Flexibility of programming instead of overall duration time, is a more important consideration confronting education and training providers as they attempt to accommodate the needs of their clients. The *Career Handbook* assigns the range of possible indicators that are relevant for an occupational group, thereby identifying the various sources of supply for occupations.

Looking for Occupations in the *Career Handbook*

Users who would like to access occupations by examples of job titles in the *Career Handbook* should refer to the *National Occupational Classification 2001: Index of Titles*, which is published as a separate volume. It provides an alphabetical list of titles and respective NOC codes. All job titles in the *Career Handbook* are found in the *Index of Titles* at the four-digit level. The *Index of Titles* can also be searched on-line on the NOC and *Career Handbook* Web site at <http://www.hrdc-drhc.gc.ca/noc>.

Transition from the CCDO to the NOC

Volume 2 of the CCDO provided rated profiles, with narratives, at the four-digit level for approximately 400 occupations. However, with emphasis having shifted from tasks to skills in the current labour market, it is necessary to focus on skills for counselling purposes. The *Career Handbook* covers 923 occupational groups in a consistent format, specific for counsellor use, and is compatible with NOC 2001. The NOC is the national standard and replaced the CCDO as an implemented system in 1993.

For Additional Information

For additional information about the *Career Handbook*, please contact:

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A Synopsis of Descriptors and Labels

APTITUDES

One of five levels assigned for each factor, with levels representing normal curve distribution of the labour force:

G General Learning Ability	Q Clerical Perception
V Verbal Ability	K Motor Co-ordination
N Numerical Ability	F Finger Dexterity
S Spatial Perception	M Manual Dexterity
P Form Perception	

INTERESTS

Three of five descriptive factors, assigned in order of predominance and lower case rating indicating weaker representation:

D Directive
I Innovative
M Methodical
O Objective
S Social

DATA/INFORMATION, PEOPLE, THINGS

D – Data/Information

0	Synthesizing
1	Co-ordinating
2	Analyzing
3	Compiling
4	Computing
5	Copying
6	Comparing
7	—
8	Not significant

P – People

0	Mentoring
1	Negotiating
2	Instructing – Consulting
3	Supervising
4	Diverting
5	Persuading
6	Speaking – Signalling
7	Serving – Assisting
8	Not significant

T – Things

0	Setting up
1	Precision working
2	Controlling
3	Driving – Operating
4	Operating – Manipulating
5	Tending
6	Feeding – Offbearing
7	Handling
8	Not significant

PHYSICAL ACTIVITIES

One of several levels assigned for each factor:

Vision

1	Close visual acuity
2	Near vision
3	Near and far vision
4	Total visual field

Hearing

1	Limited
2	Verbal interaction
3	Other sound discrimination

Limb Co-ordination

0	Not relevant
1	Upper limb co-ordination
2	Multiple limb co-ordination

Colour Discrimination

0	Not relevant
1	Relevant

Body Position

1	Sitting
2	Standing and/or walking
3	Sitting, standing, walking
4	Other body positions

Strength

1	Limited
2	Light
3	Medium
4	Heavy

ENVIRONMENTAL CONDITIONS

Location

L1	Regulated inside climate
L2	Unregulated inside climate
L3	Outside
L4	In a vehicle or cab

Hazards

H1	Dangerous chemical substances
H2	Biological agents
H3	Equipment, machinery, tools
H4	Electricity
H5	Radiation
H6	Flying particles, falling objects
H7	Fire, steam, hot surfaces
H8	Dangerous locations

Discomforts

D1	Noise
D2	Vibration
D3	Odours
D4	Non-toxic dusts
D5	Wetness

EMPLOYMENT REQUIREMENTS

Education/Training Indicators

1	No formal education or training requirements	5	Apprenticeship, specialized training, vocational school training	+	Indicating an additional requirement beyond education/training (e.g., extensive experience, demonstrated or creative ability, appointments, etc.)
2	Some high school education and/or on-the-job training or experience	6	College, technical school (certificate, diploma)		
3	Completion of high school	7	Undergraduate degree	R	Regulated requirements exist for this group
4	Completion of course work, training, workshops and/or experience related to the occupation	8	Post-graduate or professional degree		

Descriptor Definitions

APTITUDES

An individual's **overall capacity** to learn the skills needed to perform job duties is based on his or her **specific aptitudes** for acquiring information and transforming it into action.

To describe aptitude levels, the *Career Handbook* uses the following scale based on the normal curve representing the Canadian labour force. For example, 1 indicates the level of aptitude that applies to the top 10 percent of the working population.

- 1 The highest 10 percent of the working population
- 2 The upper third, exclusive of the highest 10 percent
- 3 The middle third of the working population
- 4 The lowest third, exclusive of the lowest 10 percent
- 5 The lowest 10 percent of the working population

Nine aptitude factors are rated according to the above scale to provide the aptitudinal profile needed to perform the work of an occupation. The Aptitudes Scale is based on the General Aptitude Test Battery (GATB).

G General Learning Ability

Ability to "catch on" or understand instructions and underlying principles; to reason and make judgments.

V Verbal Ability

Ability to understand the meaning of words and the ideas associated with them, and to use them effectively; to comprehend language, to understand relationships between words and to understand the meaning of whole sentences and paragraphs; to present information or ideas clearly.

N Numerical Ability

Ability to carry out arithmetical processes quickly and accurately.

S Spatial Perception

Ability to think visually about geometric forms and comprehend the two-dimensional representation of three-dimensional objects; to recognize the relationships resulting from the movement of objects in space. May be used in such tasks as blueprint reading and in solving geometry problems. Frequently described as the ability to "visualize" objects of two or three dimensions.

P Form Perception

Ability to perceive pertinent detail in objects and in pictorial and graphic material; to make visual comparisons and discriminations and to see slight differences in shapes and shadings of figures and widths and lengths of lines.

Q Clerical Perception

Ability to perceive pertinent detail in verbal or tabular material; to observe differences in copy, to proofread words and numbers, and to avoid perceptual errors in arithmetical computation.

K Motor Co-ordination

Ability to co-ordinate eyes, hands and fingers rapidly and accurately when required to respond with precise movements.

F Finger Dexterity

Ability to move the fingers and manipulate small objects with the fingers rapidly and/or accurately.

M Manual Dexterity

Ability to move the hands easily and skillfully; to work with the hands in placing and turning motions.

THE CANADIAN WORK PREFERENCE INVENTORY

The Canadian Work Preference Inventory (CWPI) measures five occupational interests:

DIRECTIVE

Directive persons like to take charge and control situations. They like to take responsibility for projects that require planning, decision making and co-ordinating the work of others. They are able to give direction and instructions easily. They enjoy organizing their own activities. They see themselves as independent and self-directing.

INNOVATIVE

Innovative persons like to explore things in depth and arrive at solutions to problems by experimenting. They are interested in initiating and creating different ways to solve questions and present information. They enjoy scientific subjects. Innovative persons prefer to be challenged with new and unexpected experiences. They adjust to change easily.

METHODICAL

Methodical persons like to have clear rules and organized methods to guide their activities. They prefer working under the direction or supervision of others according to given instructions, or to be guided by established policies and procedures. Methodical persons like to work on one thing until it is completed. They enjoy following a set routine and prefer work that is free from the unexpected.

OBJECTIVE

Objective persons enjoy working with tools, equipment, instruments and machinery. They like to repair and/or fabricate things from various materials according to specifications and using established techniques. Objective persons are interested in finding out how things operate and how they are built.

SOCIAL

Social persons like dealing with people. They enjoy caring for and assisting others in identifying their needs and solving their concerns. Social persons like working and co-operating with others. They prefer to be involved in work that requires interpersonal contact.

DATA/INFORMATION, PEOPLE, THINGS

D – Data/Information

- 0 Synthesizing
- 1 Co-ordinating
- 2 Analyzing
- 3 Compiling
- 4 Computing
- 5 Copying
- 6 Comparing
- 7 —
- 8 Not significant

P – People

- 0 Mentoring
- 1 Negotiating
- 2 Instructing – Consulting
- 3 Supervising
- 4 Diverting
- 5 Persuading
- 6 Speaking – Signalling
- 7 Serving – Assisting
- 8 Not significant

T – Things

- 0 Setting up
- 1 Precision working
- 2 Controlling
- 3 Driving – Operating
- 4 Operating – Manipulating
- 5 Tending
- 6 Feeding – Offbearing
- 7 Handling
- 8 Not significant

D – Data/Information

Non-tangible information, knowledge and concepts related to data, people and things that are obtained by observation, investigation, visualization and mental creation. Written data take the form of numbers, words and symbols. Other data are ideas, conceptualization and oral verbalization.

- 0 Synthesizing** – Integrating analyses of data to discover facts and/or develop knowledge, concepts and interpretations.
- 1 Co-ordinating** – Determining time, place and sequence of operations or actions to be taken based on analysis of data; executing determinations and/or reporting events.
- 2 Analyzing** – Examining and evaluating data; frequently presenting alternative action in relation to the evaluation.
- 3 Compiling** – Accumulating information usually recorded physically but which may be stored mentally; gathering, collating and classifying information about data, people and things; frequently reporting and/or carrying out a prescribed action in relation to the information.
- 4 Computing** – Performing arithmetical operations and reporting on, and/or carrying out, prescribed action in relation to them; does not include counting.
- 5 Copying** – Carrying out a set of explicit procedural/operational functions or processes based on an understanding of instructions or information necessary to perform the work.*
- 6 Comparing** – Identifying the obvious functional, structural or compositional characteristics (in terms of similarity with, or difference from, established standards) of data, people and things.*
- 7** The functional digit 7 is not used in the Data column.
- 8 Not significant**

* Change from CCDO, Volume 2 and the first edition of the *Career Handbook* – the definitions for Levels 5 and 6 of Data were revised to provide a clearer distinction between the *Copying* and *Comparing* functions.

P – People

Human beings; also includes animals dealt with on an individual basis.

- 0 Mentoring** – Dealing with individuals in terms of their total personalities in order to advise, counsel and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual and/or other professional principles.
- 1 Negotiating** – Exchanging ideas, information and opinions with others to arrive jointly at decisions, conclusions or solutions; often collaborating with others to formulate policies and programs.
- 2 Instructing – Consulting** – Teaching subject matter to others, giving advice or training others (including animals) through explanation, demonstration and supervised practice; making recommendations on the basis of subject matter expertise.*
- 3 Supervising** – Determining or interpreting work procedures for a group or team of workers, assigning specific duties to them, maintaining harmonious relations and promoting efficiency.
- 4 Diverting** – Providing entertainment in one or more forms.
- 5 Persuading** – Influencing others in favour of a product, service or point of view.
- 6 Speaking – Signalling** – Talking with and/or signalling people to convey or exchange information; giving assignments and/or directions to helpers.
- 7 Serving – Assisting** – Attending to the needs and requests of people or animals or the expressed and implicit wishes of people; helping and supporting other workers in the performance of tasks.**
- 8 Not significant**

* Change from CCDO, Volume 2 – the label *Consulting* was added to People Level 2 to reflect the shift in Canada from an industry- to knowledge-based economy in which consulting has become a prevalent activity.

** Change from CCDO, Volume 2 – the label *Assisting* was added to People Level 7 to reflect the increase in occupations that provide support functions.

T – Things

Tangible and/or virtual objects that include the body, substances, materials, machines, tools, equipment, products and/or systems.*

- 0 Setting up** – Adjusting machines or equipment by replacing or altering tools, jigs, fixtures and attachments to prepare them for operation, change performance or restore proper functioning if they break down.
- 1 Precision working** – Using the body and/or equipment to move, guide, place, install and/or interface with objects, in order to attain specifications and precise standards. Considerable judgment is required to select, adjust and utilize appropriate tools, products and/or materials to accomplish specified objectives.
- 2 Controlling** – Starting, stopping, controlling and adjusting machines and equipment designed to fabricate and/or process objects or materials. Operating machines involves minimal set-up and adjustment as the work progresses. Controlling equipment involves observing gauges, dials and other indicators, and turning valves and other devices to control factors such as temperature, pressure, flow of liquids, speed of pumps and reactions of materials.
- 3 Driving – Operating** – Starting, stopping and running machines and equipment that must be steered or guided in order to fabricate, process and/or move things or people. Involves activities such as observing gauges and dials, estimating distances and determining speed and direction of other objects, pushing clutches or brakes, and pushing or pulling gear shifts or levers. Includes such machines as cranes, conveyor systems, tractors, and hoisting machines. Excludes manually powered and power-assisted machines.
- 4 Operating – Manipulating** – Using the body, tools or special devices to operate equipment or move, guide, install and place objects or materials. Requires a significant combination of motor co-ordination and manual and finger dexterity. Involves some latitude for judgment with regard to precision and selection of appropriate tool, object or material.
- 5 Tending** – Starting, stopping and observing machines and equipment; adjusting materials or controls of the machine such as changing guides, adjusting timers and temperature gauges, turning valves to allow flow of materials and flipping switches in response to lights. Minimal judgment is involved in making these adjustments.
- 6 Feeding – Offbearing** – Inserting, throwing, dumping or placing materials in or removing them from machines or equipment that are automatic or operated by other workers.
- 7 Handling** – Using the body, hand tools and/or special devices to work, move or carry objects or materials. The attainment of standards or the selection of appropriate tool, object or material is not significant.
- 8 Not significant**

* Modifications to the explanations of the Things factor and its levels reflect the inclusion of information technology and scientific advancement. The broader concept of things provides a more accurate indication of the nature of work in the knowledge-based economy without weakening the integrity of the factor. The level distinctions remain the same as does the differentiation between the Things and Data factors, although these two factors seem to be increasingly interdependent.

PHYSICAL ACTIVITIES

For an occupational group that has an asterisk (*) in the Physical Activities ratings, refer to the Remarks section of that group for an explanation.

VISION

The use of sight in the work performed. The levels are organized in terms of the visual field involved in the performance of the work.

1 Close visual acuity

Some or all work activities are performed close to the worker. The scope of the visual field is confined and requires close attention to detail.

Occupations where one or more of the Main Duties require close visual acuity are coded at this level. Other Main Duties in the unit group may involve other types of vision – for example, **Near and far vision (3)** or **Total visual field (4)**.

Examples:

- assembling micro-circuit boards
- machining to close tolerances
- cutting gems
- performing surgical procedures

2 Near vision

Work activities are performed near the worker. The scope of the visual field is broader than in **Close visual acuity (1)**.

Examples:

- reading and interpreting drawings and specifications
- using computer keyboards and reading computer monitors
- repairing automobile engines
- setting up and operating machine tools

3 Near and far vision

Some work activities involve the monitoring of processes, objects or situations in the work environment that are far from the worker. Other work activities involve **Near vision (2)**.

Examples:

- loading/unloading materials by hand or equipment
- installing shingles/tiles on roofs
- conducting surveys to establish legal property boundaries
- developing trading strategies by monitoring market conditions from the exchange floor

4 Total visual field

Work activities involve the entire field of vision – **Near and far vision (3)** – as well as depth perception and peripheral vision.

Examples:

- driving vehicles
- refereeing sports events
- fighting fires
- dancing onstage in ballet performances

COLOUR DISCRIMINATION

The use of colour discrimination to identify, distinguish and match colours and different shades of the same colours.

0 Not relevant

Colour discrimination is not relevant in the performance of the work.

Examples:

- cleaning windows
- providing information over the telephone
- interviewing, hiring and overseeing staff training
- translating documents

1 Relevant

Colour discrimination is relevant in the performance of the work.

Examples:

- observing signals while operating vehicles
- installing, testing and repairing electrical wiring
- restoring and conserving museum and art gallery artifacts
- designing, constructing and repairing dentures

HEARING

The use of hearing in the work performed. The levels are organized in terms of the type of auditory discrimination involved in the performance of the work.

1 Limited

Hearing is limited to short and/or infrequent verbal interactions in order to perform the work.

Examples:

- typing and proofreading correspondence
- cutting and trimming meat, poultry and fish according to customers' orders
- carrying linen to and from laundry areas and running errands
- assisting mine workers in constructing underground installations

2 Verbal interaction

Work activities involve communication with colleagues, clients and/or the public on a regular basis.

Examples:

- operating directory listing systems to provide directory assistance to customers
- resolving work problems and recommending measures to improve productivity
- consulting with families of the deceased regarding funeral services
- analyzing and providing advice on managerial methods and organization of establishments

3 Other sound discrimination

Work activities involve the identification, assessment and/or production of sound. **Verbal interaction (2)** is included in this level.

Examples:

- leading bands, orchestras and choirs during musical rehearsals and performances
- administering audiometric tests to diagnose the degree of hearing impairment
- testing automotive systems and components using testing devices to isolate faults
- commanding fishing vessels by operating navigational instruments

BODY POSITION

Primary type of posture or body movement involved in performing the work. These postures or body movements range from simple to complex and from sedentary to mobile.

1 Sitting

Work activities primarily involve sitting. **Standing and/or walking (2)** may occur but is incidental to the work being performed.

Examples:

- reading and editing copy to be published or broadcast
- preparing financial statements
- issuing aircraft take-off and landing instructions to pilot
- interviewing clients

2 Standing and/or walking

Work activities primarily involve standing or walking.

Examples:

- cutting and styling hair
- dispensing prescribed medications to customers
- preparing and cooking meals
- delivering mail

3 Sitting, standing, walking

This level involves work activities in combinations and varying degrees of **Sitting (1)** and **Standing and/or walking (2)**.

Examples:

- teaching students through lectures, discussions, audio-visual presentations and field studies
- assessing land values for taxation purposes
- ensuring that systems and equipment are operating efficiently on job sites
- supervising and co-ordinating the activities of workers who cut or stitch fabric, fur or leather garments

4 Other body positions

Work activities involve body postures other than, or in addition to, **Sitting (1)** and **Standing and/or walking (2)** such as bending, stooping, kneeling and crouching.

Examples:

- performing labouring duties in warehouses
- measuring, cutting and installing carpeting
- adjusting, repairing or replacing parts and components of automotive systems
- treating patients' disorders of the spine and body through corrective manipulation

LIMB CO-ORDINATION

The use of limbs in performing work.

0 Not relevant

Work activities do not involve co-ordination of limbs.

Examples:

- counselling clients and providing therapy
- proofreading materials before publication
- greeting patrons at entrances to restaurant dining rooms
- responding to enquiries at an information desk

1 Upper limb co-ordination

Work activities involve co-ordination of upper limb(s).

Examples:

- keyboarding
- performing maintenance services such as oil changes, lubrications and tune-ups
- operating video cameras
- instructing students in sign language

2 Multiple limb co-ordination

Work activities are carried out by co-ordinating the movements of upper limb(s) simultaneously with lower limb(s).

Examples:

- digging ditches using shovels
- operating and driving automobiles, vans and trucks
- climbing and working aloft on poles, ladders or other support structures
- performing in figure skating competitions

STRENGTH

The use of strength in the handling of loads such as pulling, pushing, lifting and/or moving objects during the work performed.

1 Limited

Work activities involve handling loads up to 5 kg.

Examples:

- examining and analyzing financial information
- selling insurance to clients
- conducting economic and technical feasibility studies
- administering and marking written tests

2 Light

Work activities involve handling loads of 5 kg but less than 10 kg.

Examples:

- repairing soles, heels and other parts of footwear
- filing materials in drawers, cabinets and storage boxes
- preparing and cooking meals
- repairing paintings and artifacts

3 Medium

Work activities involve handling loads between 10 kg and 20 kg.

Examples:

- setting up and operating finishing machines or finishing furniture by hand
- measuring, cutting and applying wallpaper to walls
- adjusting, replacing or repairing mechanical or electrical components using hand tools and equipment
- operating film cameras to record live events

4 Heavy

Work activities involve handling loads more than 20 kg.

Examples:

- operating and maintaining deck equipment and performing other deck duties aboard ships
- shovelling cement into cement mixers and assisting in the maintenance and repair of roads
- measuring, cutting and fitting drywall sheets for installation on walls and ceilings
- operating power saws to thin and space trees in reforestation areas

ENVIRONMENTAL CONDITIONS

For an occupational group that has an asterisk (*) in the Environmental Conditions ratings, refer to the Remarks section of that group for an explanation.

LOCATION

The work performed is carried out indoors in a regulated environment, indoors in an unregulated environment, outdoors or in a vehicle. In many occupations, the Main Duties may be performed in more than one location. Therefore, a group may have more than one Location code, for example:

- firefighting and fire prevention duties
- maintenance of interior/exterior of buildings
- managing operations and paperwork of farms

L1 Regulated inside climate

A normal controlled environment such as an office, hospital or school.

L2 Unregulated inside climate

An inside work environment where the temperature or humidity may be considerably different from normal room conditions. In some groups, the nature of the duties affects the temperature or humidity of the work environment.

Examples:

- extracting coal/ore from underground mines
- operating machines that press or blow molten glass
- unloading stock into cold storage freezers
- operating furnaces to melt metals for casting

L3 Outside

An outdoor work environment where the worker is exposed to variations in weather conditions and seasonal weather patterns.

Examples:

- maintaining lawns
- repairing buildings, roads, bridges and dams
- operating power saws to thin and space trees
- delivering mail

L4 In a vehicle or cab

An interior space in any form of vehicle or in the cab of heavy equipment operated by the worker.

Examples:

- driving buses
- operating cranes
- providing service to passengers during flights
- operating subway transit vehicles

HAZARDS

Potential hazards to which the worker may be exposed. The codes provide an indication of the type(s) of hazard(s) most likely to be present in the workplace environment. They are not a measure of frequency, duration or degree of exposure to hazards, but an indication of the presence or absence of a particular hazard in the work environment.

H1 Dangerous chemical substances

Exposure to any chemical that may endanger health through inhalation, absorption or ingestion, contact with skin or eyes, or any chemical with the potential for fire or explosion. Substances may be in forms such as solids, liquids, gases, aerosols or particles.

Examples:

- extracting coal (involves exposure to silica particles)
- removing asbestos insulation from buildings
- joining bricks with mortar (contains lime)
- mixing pesticides to spray crops
- painting building interiors

H2 Biological agents

Exposure to infectious bacteria and viruses as a result of indirect contact with, or direct handling of, infectious materials or micro-organisms that may cause illness.

Examples:

- treating sick animals
- performing autopsies
- providing nursing care
- investigating outbreaks of food and environment-related diseases and poisonings
- conducting microbiological tests and laboratory analyses

H3 Equipment, machinery, tools

Working near or with equipment, instruments, machinery or power/hand tools that may be a potential source of accident or injury.

Examples:

- operating metal machining tools to shape metal
- using hand and power tools to fabricate wood products
- operating power saws to thin trees
- performing surgical procedures

H4 Electricity

Exposure to electrical circuitry, high tension wires, transformers or other equipment that may be a potential source of electrical shock.

Examples:

- installing or repairing electrical wiring, motors and generators
- maintaining underground power transmission and distribution systems
- operating semi-automatic electric arc welding equipment
- repairing industrial electrical control systems and devices

H5 Radiation

Exposure to ionizing radiation such as X-rays and radioactive substances or non-ionizing radiation such as radio frequencies and infrared, ultraviolet or visible light that may affect health adversely.

Examples:

- taking dental X-rays
- preparing and administering radioactive drugs
- operating welding equipment (ultraviolet)
- controlling the flow of air traffic using radar monitors, radio and other equipment (radio frequencies)
- conducting atmospheric research (visible laser light)
- creating glass objects (infrared)

H6 Flying particles, falling objects

Exposure to flying particles and falling objects in the work environment that pose the risk of bodily injury. **Flying particles** refer to particles such as wood chips, metal particles and rock chips generated by the handling, crushing, grinding, rapid impact or explosion of materials.

Examples:

- operating machining tools such as lathes/grinders
- constructing underground installations in mines using hand and power tools
- operating chain saws to fell and delimb trees
- operating hoisting devices to load cargo onto ships
- laying brick to construct or repair walls

H7 Fire, steam, hot surfaces

Exposure to fire (rather than exposure to flammable substances that may ignite), to emissions of steam or to intensely hot surfaces that are potential sources of injury.

Examples:

- fighting fires
- operating gas flame welding equipment
- cooking food
- forging metal items by hand or with forging machinery
- tending industrial ovens/furnaces

H8 Dangerous locations

Working in locations that are inherently treacherous and are potential sources of injury. Such work locations include construction sites, underground sites, erected support structures and marine environments.

Examples:

- building underground passageways in mines
- installing roof shingles
- washing exterior windows of buildings
- commanding fishing vessels
- operating underwater video, sonar, recording and related equipment

DISCOMFORTS

Work conditions that create disturbances but are not hazardous. In general, these conditions create discomfort, but are not direct sources of injury. In extreme instances, however, these conditions might cause injury.

D1 Noise

Work that produces sufficient noise – constant or intermittent – to cause marked distraction or possible loss of hearing.

Examples:

- operating drilling equipment in underground mines
- using power saws in logging operations
- blasting rock surface in mining
- operating heavy equipment for construction jobs
- using firearms

D2 Vibration

Work that produces an oscillating or quivering motion of the body.

Examples:

- operating jackhammers to break up pavement
- driving tractors
- operating drills to produce blasting holes in mines
- shaping metal using power-forging machinery

D3 Odours

The presence of noxious, intense or prolonged odours in the work environment.

Examples:

- cooking meals
- colouring, waving and styling hair
- preserving and sanitizing human remains
- using industrial cleaning solutions
- preparing standard cuts of meat, poultry and fish products for sale

D4 Non-toxic dusts

The presence of non-poisonous airborne particles such as textile dust, flour, sand, sawdust and feathers in the work environment.

Examples:

- preparing dough or batter
- cutting fur pelts or fabric for garments
- operating woodworking machines
- cleaning chimneys
- removing poultry feathers

D5 Wetness

Work that involves contact with water or other liquids.

Examples:

- digging ditches and trenches
- sorting, cleaning and packing fish in ice
- performing lifeguard duties
- operating underwater sonar equipment
- cleaning/disinfecting laboratory equipment

EDUCATION/TRAINING INDICATORS

Education/Training Indicators incorporate both educational and training requirements. These indicators consist of eight education or training types and two factors. The two factors are included in the rating where applicable. They represent requirements for entry into occupations that either cannot be objectively measured or are additional (+), and that are characterized as regulatory (R).

Each occupation is given multiple ratings, when applicable, to indicate all possible educational/training paths. In an occupation where high school *and* another type of training are required, the rating for high school completion has been dropped because a high school education is not sufficient for entry into that occupation.

NOTE: TO OBTAIN THE LOWEST ENTRY REQUIREMENT – if the NOC describes the education or training as “usually” required, then it has been rated as if it *is* required. If it has been described as “may be” required, then it is rated as if it is *not* required. For all other cases, the education or training listed in the description has been rated as a possible option.

INDICATOR DESCRIPTION

1 No formal education or training requirements

The occupation does not require formal education or training.

2 Some high school education and/or on-the-job training or experience

Some high school education is required, or on-the-job training or previous related experience alone is adequate. Some high school education may also be combined with on-the-job training or previous experience related to the occupation.

3 High school

The completion of high school is required.

4 Course work, training, workshops and/or experience related to the occupation

The completion of course work, training, workshops and/or experience related to the occupation, usually on completion of high school, is required. Course work refers to courses taken at special training institutes, colleges, universities and/or other training venues, but does not include the completion of a program.

5 Apprenticeship, specialized training, vocational school training

The completion of an apprenticeship program, a specialized training program (e.g., hospital-based training for nurses) or a vocational school training program is required.

6 College, technical school (certificate, diploma)

Completion of a program at a college or technical school is required. A program could lead to a certificate or a diploma.

7 Undergraduate degree

Completion of a university degree at the bachelor’s level is required.

8 Post-graduate or professional degree

Completion of a university degree at the master’s or doctoral level is required. Professional degrees that require additional education beyond the bachelor’s level, such as law, dentistry, pharmacy and veterinary medicine, are also included.

+ Additional requirement beyond education and training

This requirement could include extensive experience, demonstrated ability, creative ability, appointments, practicums and internships not included in other education and training descriptors. When this additional requirement is specified in the NOC, a "+" is attached to the relevant numerical ratings, or is listed separately, for an occupation. The amount of experience required may vary according to industry and/or employer. Demonstrated ability may be shown through a portfolio of work or the completion of an examination. Creative ability is required for artists, performers and athletes. In the case where two or more of these factors are required for an occupation (i.e., both extensive experience and demonstrated ability) only one "+" will appear. The narrative accompanying the ratings provides more specific details.

R Regulated requirement(s)

An "R" is added to the ratings to indicate that some regulated requirement exists for an occupation. Regulated requirements include licensing, certification and/or association membership. In the case where two or more regulated requirements exist, only one "R" will appear and the accompanying narrative provides additional details.

Classification Structure

Major Group Structure of the *National Occupational Classification*

00	Senior Management Occupations
01-09	Middle and Other Management Occupations
11	Professional Occupations in Business and Finance
12	Skilled Administrative and Business Occupations
14	Clerical Occupations
21	Professional Occupations in Natural and Applied Sciences
22	Technical Occupations Related to Natural and Applied Sciences
31	Professional Occupations in Health
32	Technical and Skilled Occupations in Health
34	Assisting Occupations in Support of Health Services
41	Professional Occupations in Social Science, Education, Government Services and Religion
42	Paraprofessional Occupations in Law, Social Services, Education and Religion
51	Professional Occupations in Art and Culture
52	Technical and Skilled Occupations in Art, Culture, Recreation and Sport
62	Skilled Sales and Service Occupations
64	Intermediate Sales and Service Occupations
66	Elemental Sales and Service Occupations
72-73	Trades and Skilled Transport and Equipment Operators
74	Intermediate Occupations in Transport, Equipment Operation, Installation and Maintenance
76	Trades Helpers, Construction Labourers and Related Occupations
82	Skilled Occupations in Primary Industry
84	Intermediate Occupations in Primary Industry
86	Labourers in Primary Industry
92	Processing, Manufacturing and Utilities Supervisors and Skilled Operators
94-95	Processing and Manufacturing Machine Operators and Assemblers
96	Labourers in Processing, Manufacturing and Utilities

Classification Structure of the *Career Handbook*

Management Occupations

MAJOR GROUP 00 SENIOR MANAGEMENT OCCUPATIONS

001 Legislators and Senior Management

- 0011 Legislators
- 0012 Senior Government Managers and Officials
- 0013 Senior Managers – Financial, Communications and Other Business Services
- 0014 Senior Managers – Health, Education, Social and Community Services and Membership Organizations
- 0015 Senior Managers – Trade, Broadcasting and Other Services, n.e.c.*
- 0016 Senior Managers – Goods Production, Utilities, Transportation and Construction

MAJOR GROUP 01-09 MIDDLE AND OTHER MANAGEMENT OCCUPATIONS

011 Administrative Services Managers

- 0111 Financial Managers
- 0112 Human Resources Managers
- 0113 Purchasing Managers
- 0114 Other Administrative Services Managers

012 Managers in Financial and Business Services

- 0121 Insurance, Real Estate and Financial Brokerage Managers
 - 0121.1 Insurance Managers
 - 0121.2 Real Estate Service Managers
 - 0121.3 Mortgage Broker Managers
 - 0121.4 Securities Managers
- 0122 Banking, Credit and Other Investment Managers
 - 0122.1 Banking and Other Investment Managers
 - 0122.2 Credit Managers
- 0123 Other Business Services Managers

013 Managers in Communication (Except Broadcasting)

- 0131 Telecommunication Carriers Managers
- 0132 Postal and Courier Services Managers

021 Managers in Engineering, Architecture, Science and Information Systems

- 0211 Engineering Managers
- 0212 Architecture and Science Managers
- 0213 Computer and Information Systems Managers

* n.e.c = not elsewhere classified

031 Managers in Health, Education, Social and Community Services

0311 Managers in Health Care

0312 Administrators – Post-Secondary Education and Vocational Training

0312.1 Faculty Administrators

0312.2 Registrars

0312.3 Administrators of Vocational Training Schools

0313 School Principals and Administrators of Elementary and Secondary Education

0313.1 School Principals

0313.2 Administrators of Elementary and Secondary Education

0314 Managers in Social, Community and Correctional Services

041 Managers in Public Administration

0411 Government Managers – Health and Social Policy Development and Program Administration

0412 Government Managers – Economic Analysis, Policy Development and Program Administration

0413 Government Managers – Education Policy Development and Program Administration

0414 Other Managers in Public Administration

051 Managers in Art, Culture, Recreation and Sport

0511 Library, Archive, Museum and Art Gallery Managers

0512 Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts

0513 Recreation and Sports Program and Service Directors

061 Sales, Marketing and Advertising Managers

0611 Sales, Marketing and Advertising Managers

0611.1 Sales Managers

0611.2 Marketing Managers

0611.3 Advertising Managers

0611.4 Public Relations Managers

0611.5 E-commerce Managers

062 Managers in Retail Trade

0621 Retail Trade Managers

063 Managers in Food Service and Accommodation

0631 Restaurant and Food Service Managers

0632 Accommodation Service Managers

064 Managers in Protective Service

0641 Commissioned Police Officers

0642 Fire Chiefs and Senior Firefighting Officers

0643 Commissioned Officers, Armed Forces

065 Managers in Other Services

0651 Other Services Managers

071 Managers in Construction and Transportation

0711 Construction Managers

0712 Residential Home Builders and Renovators

0713 Transportation Managers

0713.1 Transportation Managers, Operations

0713.2 Transportation Managers, Freight Traffic

072 Facility Operation and Maintenance Managers

0721 Facility Operation and Maintenance Managers

0721.1 Facility Operation Managers

0721.2 Maintenance Managers

081 Managers in Primary Production (Except Agriculture)

0811 Primary Production Managers (Except Agriculture)

091 Managers in Manufacturing and Utilities

0911 Manufacturing Managers

0912 Utilities Managers

0912.1 Water Supply Managers

0912.2 Electrical Power Distribution Managers

0912.3 Natural Gas Supply Managers

0912.4 Petroleum Product Distribution Managers

0912.5 Water Pollution Control Managers

0912.6 Waste Systems Managers

Business, Finance and Administration Occupations

MAJOR GROUP 11

PROFESSIONAL OCCUPATIONS IN BUSINESS AND FINANCE

111 Auditors, Accountants and Investment Professionals

1111 Financial Auditors and Accountants

1111.1 Financial Auditors

1111.2 Accountants

1112 Financial and Investment Analysts

1112.1 Financial Analysts

1112.2 Investment Analysts

1113 Securities Agents, Investment Dealers and Brokers

1113.1 Securities Agents and Investment Dealers

1113.2 Brokers

1114 Other Financial Officers

1114.1 Financial Planners

1114.2 Financial Examiners and Inspectors

1114.3 Financial Investigators

1114.4 Underwriters

1114.5 Trust Officers

1114.6 Mortgage Brokers

112 Human Resources and Business Service Professionals

1121 Specialists in Human Resources

1122 Professional Occupations in Business Services to Management

1122.1 Management Consultants

1122.2 Advertising and Promotion Consultants

MAJOR GROUP 12

SKILLED ADMINISTRATIVE AND BUSINESS OCCUPATIONS

121 Clerical Supervisors

1211 Supervisors, General Office and Administrative Support Clerks

1212 Supervisors, Finance and Insurance Clerks

1213 Supervisors, Library, Correspondence and Related Information Clerks

1214 Supervisors, Mail and Message Distribution Occupations

1215 Supervisors, Recording, Distributing and Scheduling Occupations

122 Administrative and Regulatory Occupations

- 1221 Administrative Officers
- 1222 Executive Assistants
- 1223 Personnel and Recruitment Officers
- 1224 Property Administrators
- 1225 Purchasing Agents and Officers
- 1226 Conference and Event Planners
- 1227 Court Officers and Justices of the Peace
 - 1227.1 Court Officers
 - 1227.2 Justices of the Peace
- 1228 Immigration, Employment Insurance and Revenue Officers
 - 1228.1 Immigration Officers
 - 1228.2 Employment Insurance Officers
 - 1228.3 Customs Officers and Inspectors
 - 1228.4 Excise Tax Revenue Officers

123 Finance and Insurance Administrative Occupations

- 1231 Bookkeepers
- 1232 Loan Officers
- 1233 Insurance Adjusters and Claims Examiners
 - 1233.1 Insurance Adjusters
 - 1233.2 Insurance Claims Examiners
- 1234 Insurance Underwriters
- 1235 Assessors, Valuers and Appraisers
 - 1235.1 Assessors
 - 1235.2 Valuers
 - 1235.3 Appraisers
- 1236 Customs, Ship and Other Brokers
 - 1236.1 Customs Brokers
 - 1236.2 Ship Brokers

124 Secretaries, Recorders and Transcriptionists

- 1241 Secretaries (Except Legal and Medical)
- 1242 Legal Secretaries
- 1243 Medical Secretaries
- 1244 Court Recorders and Medical Transcriptionists
 - 1244.1 Court Recorders
 - 1244.2 Medical Transcriptionists

MAJOR GROUP 14
CLERICAL OCCUPATIONS

141 Clerical Occupations, General Office Skills

- 1411 General Office Clerks
- 1413 Records Management and Filing Clerks
 - 1413.1 Records Management Clerks
 - 1413.2 File Clerks
 - 1413.3 Health Records Technicians
- 1414 Receptionists and Switchboard Operators
 - 1414.1 Receptionists
 - 1414.2 Hospital Admitting Clerks
 - 1414.3 Medical and Dental Receptionists
 - 1414.4 Switchboard Operators
 - 1414.5 Answering Service Operators
 - 1414.6 Front Desk Clerks (Except Hotel)

142 Office Equipment Operators

- 1422 Data Entry Clerks
- 1423 Desktop Publishing Operators and Related Occupations
 - 1423.1 Desktop Publishing Operators
 - 1423.2 Markup Persons
 - 1423.3 Typesetting Input Operators
 - 1423.4 Typesetting Output Operators
 - 1423.5 Pre-Flight Operators
 - 1423.6 File Preparation Operators
- 1424 Telephone Operators

143 Finance and Insurance Clerks

- 1431 Accounting and Related Clerks
- 1432 Payroll Clerks
- 1433 Customer Service Representatives – Financial Services
- 1434 Banking, Insurance and Other Financial Clerks
 - 1434.1 Bank Clerks
 - 1434.2 Insurance Clerks
 - 1434.3 Other Financial Clerks
- 1435 Collectors

144 Administrative Support Clerks

- 1441 Administrative Clerks
- 1442 Personnel Clerks
- 1443 Court Clerks

145 Library, Correspondence and Related Information Clerks

1451 Library Clerks

1452 Correspondence, Publication and Related Clerks

1452.1 Classified Advertising Clerks

1452.2 Correspondence Clerks

1452.3 Editorial Assistants and Publication Clerks

1452.4 Proofreaders

1452.5 Readers and Press Clippers

1453 Customer Service, Information and Related Clerks

1453.1 Customer Service Clerks in Retail Establishments

1453.2 Call Centre Agents

1453.3 Customer Service Clerks in Insurance, Telephone, Utility and Similar Companies

1453.4 Information Clerks

1454 Survey Interviewers and Statistical Clerks

1454.1 Survey Interviewers

1454.2 Statistical Clerks

146 Mail and Message Distribution Occupations

1461 Mail, Postal and Related Clerks

1461.1 Postal Clerks

1461.2 Mail Sorters

1461.3 Mail Room Clerks

1462 Letter Carriers

1463 Couriers, Messengers and Door-to-Door Distributors

147 Recording, Scheduling and Distributing Occupations

1471 Shippers and Receivers

1472 Storekeepers and Parts Clerks

1473 Production Clerks

1474 Purchasing and Inventory Clerks

1474.1 Purchasing Clerks

1474.2 Inventory Clerks

1475 Dispatchers and Radio Operators

1475.1 Dispatchers

1475.2 Radio Operators

1476 Transportation Route and Crew Schedulers

Natural and Applied Sciences and Related Occupations

MAJOR GROUP 21

PROFESSIONAL OCCUPATIONS IN NATURAL AND APPLIED SCIENCES

211 Physical Science Professionals

- 2111 Physicists and Astronomers
 - 2111.1 Physicists
 - 2111.2 Astronomers
- 2112 Chemists
- 2113 Geologists, Geochemists and Geophysicists
- 2114 Meteorologists
- 2115 Other Professional Occupations in Physical Sciences
 - 2115.1 Metallurgists
 - 2115.2 Soil Scientists
 - 2115.3 Materials Scientists

212 Life Science Professionals

- 2121 Biologists and Related Scientists
 - 2121.1 Biologists
 - 2121.2 Microbiologists and Cell and Molecular Biologists
- 2122 Forestry Professionals
- 2123 Agricultural Representatives, Consultants and Specialists

213 Civil, Mechanical, Electrical and Chemical Engineers

- 2131 Civil Engineers
- 2132 Mechanical Engineers
- 2133 Electrical and Electronics Engineers
- 2134 Chemical Engineers

214 Other Engineers

- 2141 Industrial and Manufacturing Engineers
- 2142 Metallurgical and Materials Engineers
- 2143 Mining Engineers
- 2144 Geological Engineers
- 2145 Petroleum Engineers
- 2146 Aerospace Engineers
- 2147 Computer Engineers (Except Software Engineers)
 - 2147.1 Computer and Telecommunications Hardware Engineers
 - 2147.2 Network System and Data Communication Engineers
- 2148 Other Professional Engineers, n.e.c.
 - 2148.1 Agricultural and Bio-resource Engineers
 - 2148.2 Biomedical Engineers
 - 2148.3 Engineering Physicists and Engineering Scientists
 - 2148.4 Marine and Naval Engineers
 - 2148.5 Textile Engineers

215 Architects, Urban Planners and Land Surveyors

- 2151 Architects
- 2152 Landscape Architects
- 2153 Urban and Land Use Planners
- 2154 Land Surveyors

216 Mathematicians, Statisticians and Actuaries

- 2161 Mathematicians, Statisticians and Actuaries
 - 2161.1 Mathematicians
 - 2161.2 Statisticians
 - 2161.3 Actuaries

217 Computer and Information Systems Professionals

- 2171 Information Systems Analysts and Consultants
 - 2171.1 Information Systems Business Analysts and Consultants
 - 2171.2 Systems Security Analysts
 - 2171.3 Information Systems Quality Assurance Analysts
 - 2171.4 Systems Auditors
- 2172 Database Analysts and Data Administrators
 - 2172.1 Database Analysts
 - 2172.2 Data Administrators
- 2173 Software Engineers
- 2174 Computer Programmers and Interactive Media Developers
 - 2174.1 Computer Programmers
 - 2174.2 Interactive Media Developers
- 2175 Web Designers and Developers

MAJOR GROUP 22

TECHNICAL OCCUPATIONS RELATED TO NATURAL AND APPLIED SCIENCES

221 Technical Occupations in Physical Sciences

- 2211 Chemical Technologists and Technicians
 - 2211.1 Chemical Technologists
 - 2211.2 Chemical Technicians
- 2212 Geological and Mineral Technologists and Technicians
 - 2212.1 Geological and Mineral Technologists
 - 2212.2 Geological and Mineral Technicians
- 2213 Meteorological Technicians

222 Technical Occupations in Life Sciences

- 2221 Biological Technologists and Technicians
 - 2221.1 Biological Technologists
 - 2221.2 Biological Technicians

- 2222 Agricultural and Fish Products Inspectors
 - 2222.1 Fish and Fish Products Inspectors
 - 2222.2 Fruit and Vegetables Inspectors
 - 2222.3 Grain Inspectors
 - 2222.4 Meat Inspectors
 - 2222.5 Plant Protection Inspectors
- 2223 Forestry Technologists and Technicians
- 2224 Conservation and Fishery Officers
- 2225 Landscape and Horticultural Technicians and Specialists
 - 2225.1 Arborists and Tree Service Technicians
 - 2225.2 Golf Course Superintendents
 - 2225.3 Horticulturists
 - 2225.4 Landscape Designers and Landscape Architectural Technicians and Technologists
 - 2225.5 Landscape Gardeners
 - 2225.6 Landscapers
 - 2225.7 Lawn Care Specialists
- 223 Technical Occupations in Civil, Mechanical and Industrial Engineering**
- 2231 Civil Engineering Technologists and Technicians
 - 2231.1 Civil Engineering Technologists
 - 2231.2 Civil Engineering Technicians
- 2232 Mechanical Engineering Technologists and Technicians
 - 2232.1 Mechanical Engineering Technologists
 - 2232.2 Mechanical Engineering Technicians
- 2233 Industrial Engineering and Manufacturing Technologists and Technicians
 - 2233.1 Industrial Engineering and Manufacturing Technologists
 - 2233.2 Industrial Engineering and Manufacturing Technicians
- 2234 Construction Estimators
- 224 Technical Occupations in Electronics and Electrical Engineering**
- 2241 Electrical and Electronics Engineering Technologists and Technicians
 - 2241.1 Electrical and Electronics Engineering Technologists
 - 2241.2 Electrical and Electronics Engineering Technicians
- 2242 Electronic Service Technicians (Household and Business Equipment)
- 2243 Industrial Instrument Technicians and Mechanics
- 2244 Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors
 - 2244.1 Aircraft Instrument Mechanics and Technicians
 - 2244.2 Aircraft Electrical Mechanics and Technicians
 - 2244.3 Avionics Mechanics and Technicians
 - 2244.4 Avionics Inspectors

225 Technical Occupations in Architecture, Drafting, Surveying and Mapping

- 2251 Architectural Technologists and Technicians
- 2252 Industrial Designers
- 2253 Drafting Technologists and Technicians
 - 2253.1 Drafting Technologists
 - 2253.2 Drafting Technicians
- 2254 Land Survey Technologists and Technicians
 - 2254.1 Land Survey Technologists
 - 2254.2 Land Survey Technicians
- 2255 Mapping and Related Technologists and Technicians
 - 2255.1 Cartographic Technologists and Technicians
 - 2255.2 Photogrammetric Technologists and Technicians
 - 2255.3 Aerial Survey Technologists and Technicians
 - 2255.4 Remote Sensing Technologists and Technicians
 - 2255.5 Geographic Information Systems (GIS) Technologists and Technicians

226 Other Technical Inspectors and Regulatory Officers

- 2261 Nondestructive Testers and Inspectors
- 2262 Engineering Inspectors and Regulatory Officers
 - 2262.1 Motor Vehicles Defects Investigators
 - 2262.2 Railway Accident Investigation Officers
 - 2262.3 Airworthiness Inspectors
 - 2262.4 Inspectors, Weights and Measures
- 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety
- 2264 Construction Inspectors

227 Transportation Officers and Controllers

- 2271 Air Pilots, Flight Engineers and Flying Instructors
 - 2271.1 Pilots
 - 2271.2 Flight Engineers (Second Officers)
 - 2271.3 Flying Instructors
- 2272 Air Traffic Control and Related Occupations
 - 2272.1 Air Traffic Controllers
 - 2272.2 Flight Dispatchers
 - 2272.3 Flight Service Specialists
- 2273 Deck Officers, Water Transport
- 2274 Engineer Officers, Water Transport
- 2275 Railway Traffic Controllers and Marine Traffic Regulators
 - 2275.1 Railway Traffic Controllers
 - 2275.2 Marine Traffic Regulators

228 Technical Occupations in Computer and Information Systems

- 2281 Computer and Network Operators and Web Technicians
 - 2281.1 Computer and Network Operators
 - 2281.2 Web Technicians
- 2282 User Support Technicians
- 2283 Systems Testing Technicians

Health Occupations

MAJOR GROUP 31 PROFESSIONAL OCCUPATIONS IN HEALTH

311 Physicians, Dentists and Veterinarians

- 3111 Specialist Physicians
 - 3111.1 Specialists in Clinical Medicine
 - 3111.2 Specialists in Laboratory Medicine
 - 3111.3 Specialists in Surgery
- 3112 General Practitioners and Family Physicians
- 3113 Dentists
- 3114 Veterinarians

312 Optometrists, Chiropractors and Other Health Diagnosing and Treating Professionals

- 3121 Optometrists
- 3122 Chiropractors
- 3123 Other Professional Occupations in Health Diagnosing and Treating
 - 3123.1 Doctors of Podiatric Medicine
 - 3123.2 Chiropodists and Podiatrists
 - 3123.3 Naturopaths
 - 3123.4 Orthoptists
 - 3123.5 Osteopaths

313 Pharmacists, Dietitians and Nutritionists

- 3131 Pharmacists
 - 3131.1 Community Pharmacists and Hospital Pharmacists
 - 3131.2 Industrial Pharmacists
- 3132 Dietitians and Nutritionists

314 Therapy and Assessment Professionals

- 3141 Audiologists and Speech-Language Pathologists
 - 3141.1 Audiologists
 - 3141.2 Speech-Language Pathologists
- 3142 Physiotherapists
- 3143 Occupational Therapists
- 3144 Other Professional Occupations in Therapy and Assessment

315 Nurse Supervisors and Registered Nurses

- 3151 Head Nurses and Supervisors

- 3152 Registered Nurses
 - 3152.1 General Duty Registered Nurses
 - 3152.2 Occupational Health Nurses
 - 3152.3 Community Health Nurses
 - 3152.4 Psychiatric Nurses
 - 3152.5 Nursing Consultants
 - 3152.6 Nursing Researchers
 - 3152.7 Clinical Nurses

MAJOR GROUP 32 TECHNICAL AND SKILLED OCCUPATIONS IN HEALTH

321 Medical Technologists and Technicians (Except Dental Health)

- 3211 Medical Laboratory Technologists and Pathologists' Assistants
 - 3211.1 Medical Laboratory Technologists
 - 3211.2 Pathologists' Assistants
- 3212 Medical Laboratory Technicians
- 3213 Veterinary and Animal Health Technologists and Technicians
- 3214 Respiratory Therapists, Clinical Perfusionists and Cardio-Pulmonary Technologists
 - 3214.1 Respiratory Therapists
 - 3214.2 Clinical Perfusionists
 - 3214.3 Cardiopulmonary Technologists
- 3215 Medical Radiation Technologists
 - 3215.1 Radiological Technologists
 - 3215.2 Nuclear Medicine Technologists
 - 3215.3 Radiation Therapists
- 3216 Medical Sonographers
- 3217 Cardiology Technologists
- 3218 Electroencephalographic and Other Diagnostic Technologists, n.e.c.
 - 3218.1 Electroencephalographic (EEG) Technologists
 - 3218.2 Electromyography (EMG) Technologists
- 3219 Other Medical Technologists and Technicians (Except Dental Health)
 - 3219.1 Dietary Technicians
 - 3219.2 Ocularists
 - 3219.3 Prosthetists and Orthotists
 - 3219.4 Prosthetic and Orthotic Technicians

322 Technical Occupations in Dental Health Care

- 3221 Denturists
- 3222 Dental Hygienists and Dental Therapists
 - 3222.1 Dental Hygienists
 - 3222.2 Dental Therapists

- 3223 Dental Technologists, Technicians and Laboratory Bench Workers
 - 3223.1 Dental Technologists and Technicians
 - 3223.2 Dental Laboratory Bench Workers

323 Other Technical Occupations in Health Care (Except Dental)

- 3231 Opticians
- 3232 Midwives and Practitioners of Natural Healing
 - 3232.1 Midwives
 - 3232.2 Acupuncturists
 - 3232.3 Chinese Medical Practitioners
 - 3232.4 Herbalists
 - 3232.5 Homeopaths
 - 3232.6 Reflexologists
 - 3232.7 Rolfers
- 3233 Licensed Practical Nurses
 - 3233.1 Licensed Practical Nurses
 - 3233.2 Operating Room Technicians
- 3234 Ambulance Attendants and Other Paramedical Occupations
- 3235 Other Technical Occupations in Therapy and Assessment
 - 3235.1 Audio Prosthetists
 - 3235.2 Audiometric Assistants
 - 3235.3 Communication Assistants
 - 3235.4 Massage Therapists
 - 3235.5 Ophthalmic Medical Assistants
 - 3235.6 Physical Rehabilitation Technicians

MAJOR GROUP 34

ASSISTING OCCUPATIONS IN SUPPORT OF HEALTH SERVICES

341 Assisting Occupations in Support of Health Services

- 3411 Dental Assistants
- 3413 Nurse Aides, Orderlies and Patient Service Associates
- 3414 Other Assisting Occupations in Support of Health Services
 - 3414.1 Orthopedic Technologists
 - 3414.2 Therapy Assistants
 - 3414.3 Optical/Ophthalmic Laboratory Technicians and Assistants
 - 3414.4 Pharmacy Assistants
 - 3414.5 Central Supply Aides
 - 3414.6 Blood Donor Clinic Assistants
 - 3414.7 Morgue Attendants

Occupations in Social Science, Education, Government Service and Religion

MAJOR GROUP 41

PROFESSIONAL OCCUPATIONS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT SERVICES AND RELIGION

411 Judges, Lawyers and Quebec Notaries

4111 Judges

4112 Lawyers and Quebec Notaries

412 University Professors and Assistants

4121 University Professors

4122 Post-Secondary Teaching and Research Assistants

4122.1 Post-Secondary Teaching Assistants

4122.2 Post-Secondary Research Assistants

413 College and Other Vocational Instructors

4131 College and Other Vocational Instructors

414 Secondary and Elementary School Teachers and Educational Counsellors

4141 Secondary School Teachers

4142 Elementary School and Kindergarten Teachers

4143 Educational Counsellors

415 Psychologists, Social Workers, Counsellors, Clergy and Probation Officers

4151 Psychologists

4152 Social Workers

4153 Family, Marriage and Other Related Counsellors

4154 Ministers of Religion

4155 Probation and Parole Officers and Related Occupations

4155.1 Probation and Parole Officers

4155.2 Classification Officers, Correctional Institutions

416 Policy and Program Officers, Researchers and Consultants

4161 Natural and Applied Science Policy Researchers, Consultants and Program Officers

4161.1 Ergonomists

4161.2 Occupational/Industrial Hygienists

4161.3 Patent Agents

4161.4 Science Policy and Program Officers

4162 Economists and Economic Policy Researchers and Analysts

4163 Business Development Officers and Marketing Researchers and Consultants

- 4164 Social Policy Researchers, Consultants and Program Officers
 - 4164.1 Social Policy Researchers
 - 4164.2 Home Economists
 - 4164.3 Housing Policy Analysts
 - 4164.4 International Aid and Development Project Officers
 - 4164.5 Social Survey Researchers
 - 4164.6 Social Services Planners
- 4165 Health Policy Researchers, Consultants and Program Officers
- 4166 Education Policy Researchers, Consultants and Program Officers
- 4167 Recreation, Sports and Fitness Program Supervisors and Consultants
 - 4167.1 Kinesiologists
 - 4167.2 Fitness Consultants
 - 4167.3 Recreation Consultants
 - 4167.4 Recreation, Sports and Fitness Policy Analysts
 - 4167.5 Recreation and Sports Program Supervisors
 - 4167.6 Sports Consultants
 - 4167.7 Fitness Appraisers
 - 4167.8 Exercise Therapists
- 4168 Program Officers Unique to Government
- 4169 Other Professional Occupations in Social Science, n.e.c.
 - 4169.1 Anthropologists
 - 4169.2 Archaeologists
 - 4169.3 Geographers
 - 4169.4 Historians
 - 4169.5 Linguists
 - 4169.6 Political Scientists
 - 4169.7 Psychometricians and Psychometrists
 - 4169.8 Sociologists
 - 4169.9 Other Social Science Professionals

MAJOR GROUP 42

PARAPROFESSIONAL OCCUPATIONS IN LAW, SOCIAL SERVICES, EDUCATION AND RELIGION

- 421 Paralegals, Social Services Workers and Occupations in Education and Religion, n.e.c.**
- 4211 Paralegal and Related Occupations
 - 4211.1 Legal Assistants and Paralegals
 - 4211.2 Notaries Public
 - 4211.3 Trademark Agents
 - 4211.4 Independent Paralegals
- 4212 Community and Social Service Workers
- 4213 Employment Counsellors

- 4214 Early Childhood Educators and Assistants
 - 4214.1 Early Childhood Educators
 - 4214.2 Early Childhood Educators Assistants
- 4215 Instructors and Teachers of Persons with Disabilities
- 4216 Other Instructors
 - 4216.1 Driving Instructors
 - 4216.2 Driver's Licence Examiners
 - 4216.3 Sewing Instructors
 - 4216.4 Modelling and Finishing School Instructors
- 4217 Other Religious Occupations

Occupations in Art, Culture, Recreation and Sport

MAJOR GROUP 51

PROFESSIONAL OCCUPATIONS IN ART AND CULTURE

511 Librarians, Archivists, Conservators and Curators

- 5111 Librarians
- 5112 Conservators and Curators
 - 5112.1 Conservators
 - 5112.2 Curators
- 5113 Archivists

512 Writing, Translating and Public Relations Professionals

- 5121 Authors and Writers
 - 5121.1 Creative Writers
 - 5121.2 Technical Writers
 - 5121.3 Copywriters
- 5122 Editors
- 5123 Journalists
- 5124 Professional Occupations in Public Relations and Communications
- 5125 Translators, Terminologists and Interpreters
 - 5125.1 Translators
 - 5125.2 Terminologists
 - 5125.3 Interpreters
 - 5125.4 Sign Language Interpreters

513 Creative and Performing Artists

- 5131 Producers, Directors, Choreographers and Related Occupations
 - 5131.1 Film, Radio and Television Producers
 - 5131.2 Directors
 - 5131.3 Choreographers
 - 5131.4 Art Directors
 - 5131.5 Film Editors
 - 5131.6 Record Producers
 - 5131.7 Directors of Photography
- 5132 Conductors, Composers and Arrangers
 - 5132.1 Conductors
 - 5132.2 Composers
 - 5132.3 Arrangers
- 5133 Musicians and Singers
 - 5133.1 Musicians
 - 5133.2 Singers
 - 5133.3 Teachers of Music or Voice
- 5134 Dancers
 - 5134.1 Dancers
 - 5134.2 Dance Teachers

- 5135 Actors and Comedians
 - 5135.1 Actors and Comedians
 - 5135.2 Acting Teachers
- 5136 Painters, Sculptors and Other Visual Artists
 - 5136.1 Painters
 - 5136.2 Sculptors
 - 5136.3 Art Instructors and Teachers

MAJOR GROUP 52

TECHNICAL AND SKILLED OCCUPATIONS IN ART, CULTURE, RECREATION AND SPORT

521 Technical Occupations in Libraries, Archives, Museums and Art Galleries

- 5211 Library and Archive Technicians and Assistants
 - 5211.1 Library Technicians and Assistants
 - 5211.2 Archive Technicians and Assistants
- 5212 Technical Occupations Related to Museums and Art Galleries
 - 5212.1 Conservation and Restoration Technicians
 - 5212.2 Curatorial Assistants
 - 5212.3 Museum and Other Related Interpreters
 - 5212.4 Museum Extension Officers
 - 5212.5 Museum Registrars and Cataloguers
 - 5212.6 Preparators and Museology Technicians
 - 5212.7 Picture Framers
 - 5212.8 Taxidermists

522 Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts

- 5221 Photographers
- 5222 Film and Video Camera Operators
- 5223 Graphic Arts Technicians
- 5224 Broadcast Technicians
- 5225 Audio and Video Recording Technicians
- 5226 Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts
 - 5226.1 Floor Managers
 - 5226.2 Key Grips
 - 5226.3 Gaffers and Lighting Technicians
 - 5226.4 Stunt Co-ordinators and Special Effects Technicians
 - 5226.5 Make-Up Artists
 - 5226.6 Costumiers
 - 5226.7 Settings Shop Foremen/women
 - 5226.8 Property Masters

- 5227 Support Occupations in Motion Pictures, Broadcasting and the Performing Arts
 - 5227.1 Camera Crane Operators
 - 5227.2 Projectionists
 - 5227.3 Props Persons and Set Builders
 - 5227.4 Script Assistants
 - 5227.5 Grips and Riggers
 - 5227.6 Dressers

- 523 Announcers and Other Performers**
 - 5231 Announcers and Other Broadcasters
 - 5232 Other Performers
 - 5232.1 Buskers
 - 5232.2 Circus Performers
 - 5232.3 Magicians and Illusionists
 - 5232.4 Fashion Models
 - 5232.5 Puppeteers

- 524 Creative Designers and Craftspersons**
 - 5241 Graphic Designers and Illustrators
 - 5241.1 Graphic Designers
 - 5241.2 Illustrators
 - 5242 Interior Designers
 - 5243 Theatre, Fashion, Exhibit and Other Creative Designers
 - 5243.1 Theatre Designers
 - 5243.2 Fashion Designers
 - 5243.3 Exhibit Designers
 - 5244 Artisans and Craftspersons
 - 5244.1 Carvers
 - 5244.2 Glass Blowers
 - 5244.3 Metal Arts Workers
 - 5244.4 Potters
 - 5244.5 Stained Glass Artists
 - 5244.6 Stringed Instrument Makers
 - 5244.7 Weavers
 - 5244.8 Craft Instructors
 - 5244.9 Artistic Floral Arrangers
 - 5245 Patternmakers – Textile, Leather and Fur Products

- 525 Athletes, Coaches, Referees and Related Occupations**
 - 5251 Athletes
 - 5252 Coaches
 - 5252.1 Coaches
 - 5252.2 Sports Scouts
 - 5253 Sports Officials and Referees
 - 5254 Program Leaders and Instructors in Recreation and Sport

Sales and Service Occupations

MAJOR GROUP 62

SKILLED SALES AND SERVICE OCCUPATIONS

621 Sales and Service Supervisors

- 6211 Retail Trade Supervisors
- 6212 Food Service Supervisors
- 6213 Executive Housekeepers
- 6214 Dry Cleaning and Laundry Supervisors
- 6215 Cleaning Supervisors
- 6216 Other Service Supervisors

622 Technical Sales Specialists, Wholesale Trade

- 6221 Technical Sales Specialists – Wholesale Trade

623 Insurance and Real Estate Sales Occupations and Buyers

- 6231 Insurance Agents and Brokers
- 6232 Real Estate Agents and Salespersons
- 6233 Retail and Wholesale Buyers
- 6234 Grain Elevator Operators

624 Chefs and Cooks

- 6241 Chefs
 - 6241.1 Executive Chefs
 - 6241.2 Sous-chefs
 - 6241.3 Chefs and Specialist Chefs
- 6242 Cooks

625 Butchers and Bakers

- 6251 Butchers and Meat Cutters – Retail and Wholesale
- 6252 Bakers

626 Police Officers and Firefighters

- 6261 Police Officers (Except Commissioned)
- 6262 Firefighters

627 Technical Occupations in Personal Service

- 6271 Hairstylists and Barbers
 - 6271.1 Hairstylists
 - 6271.2 Barbers
- 6272 Funeral Directors and Embalmers
 - 6272.1 Funeral Directors
 - 6272.2 Embalmers

MAJOR GROUP 64
INTERMEDIATE SALES AND SERVICE OCCUPATIONS

641 Sales Representatives, Wholesale Trade

6411 Sales Representatives – Wholesale Trade (Non-Technical)

642 Retail Salespersons and Sales Clerks

6421 Retail Salespersons and Sales Clerks

643 Occupations in Travel and Accommodation

6431 Travel Counsellors

6432 Purser and Flight Attendants

6432.1 Flight Attendants

6432.2 Flight Purser, Customer Service Directors and Passenger Service Directors

6432.3 Ship Purser

6433 Airline Sales and Service Agents

6433.1 Airline Passenger and Ticket Agents

6433.2 Airline Baggage Agents

6433.3 Airline Cargo Agents

6433.4 Airline Reservation Agents

6433.5 Airline Station Agents

6433.6 Airline Load Planners

6434 Ticket Agents, Cargo Service Representatives and Related Clerks (Except Airline)

6434.1 Ticket Agents and Related Clerks (Except Airline)

6434.2 Cargo Service Representatives (Except Airline)

6435 Hotel Front Desk Clerks

644 Tour and Recreational Guides and Casino Occupations

6441 Tour and Travel Guides

6441.1 Tour Guides

6441.2 Travel Guides

6442 Outdoor Sport and Recreational Guides

6443 Casino Occupations

6443.1 Gambling Casino Supervisors

6443.2 Gambling Casino Workers

645 Occupations in Food and Beverage Service

6451 Maîtres d'hôtel and Hosts/Hostesses

6452 Bartenders

6453 Food and Beverage Servers

646 Other Occupations in Protective Service

6461 Sheriffs and Bailiffs

6462 Correctional Service Officers

- 6463 By-law Enforcement and Other Regulatory Officers, n.e.c.
 - 6463.1 Animal Control Officers
 - 6463.2 By-law Enforcement Officers
 - 6463.3 Commercial Transport Inspectors
 - 6463.4 Garbage Collection Inspectors
 - 6463.5 Liquor Licence Inspectors
 - 6463.6 Parking Control Officers
 - 6463.7 Taxi Inspectors
 - 6463.8 Zoning Inspectors
- 6464 Occupations Unique to the Armed Forces
- 6465 Other Protective Service Occupations
 - 6465.1 Corporate Security Officers
 - 6465.2 Private Investigators
 - 6465.3 Retail Loss Prevention Officers
- 647 Childcare and Home Support Workers**
- 6471 Visiting Homemakers, Housekeepers and Related Occupations
 - 6471.1 Visiting Homemakers
 - 6471.2 Housekeepers
 - 6471.3 Companions
 - 6471.4 Foster Parents
- 6472 Elementary and Secondary School Teacher Assistants
- 6474 Babysitters, Nannies and Parents' Helpers
 - 6474.1 Babysitters
 - 6474.2 Nannies and Live-in Caregivers
 - 6474.3 Parents' Helpers
- 648 Other Occupations in Personal Service**
- 6481 Image, Social and Other Personal Consultants
 - 6481.1 Image Consultants
 - 6481.2 Make-Up Consultants
 - 6481.3 Colour Consultants
 - 6481.4 Wedding Consultants
 - 6481.5 Weight Loss Consultants
- 6482 Estheticians, Electrologists and Related Occupations
 - 6482.1 Estheticians
 - 6482.2 Cosmeticians
 - 6482.3 Electrologists
 - 6482.4 Manicurists and Pedicurists
 - 6482.5 Scalp Treatment Specialists
 - 6482.6 Tattoo Artists
 - 6482.7 Hair Replacement Technicians (Non-Medical)
- 6483 Pet Groomers and Animal Care Workers

- 6484 Other Personal Service Occupations
 - 6484.1 Astrologers
 - 6484.2 Psychic Consultants
 - 6484.3 Other Service Providers

MAJOR GROUP 66 ELEMENTAL SALES AND SERVICE OCCUPATIONS

661 Cashiers

- 6611 Cashiers

662 Other Sales and Related Occupations

- 6621 Service Station Attendants
 - 6621.1 Automotive Service Station Attendants
 - 6621.2 Marina Service Station Attendants
- 6622 Grocery Clerks and Store Shelf Stockers
- 6623 Other Elemental Sales Occupations
 - 6623.1 Direct Distributors
 - 6623.2 Door-to-Door Salespersons
 - 6623.3 Street Vendors
 - 6623.4 Telephone Solicitors and Telemarketers
 - 6623.5 Demonstrators

664 Food Counter Attendants, Kitchen Helpers and Related Occupations

- 6641 Food Counter Attendants, Kitchen Helpers and Related Occupations
 - 6641.1 Food Service Counter Attendants and Food Preparers
 - 6641.2 Kitchen Helpers
 - 6641.3 Food Service Helpers
 - 6641.4 Dishwashers

665 Security Guards and Related Occupations

- 6651 Security Guards and Related Occupations

666 Cleaners

- 6661 Light Duty Cleaners
- 6662 Specialized Cleaners
 - 6662.1 Carpet and Upholstery Cleaners
 - 6662.2 Chimney Cleaners
 - 6662.3 Furnace and Ventilation System Cleaners
 - 6662.4 Sandblasters
 - 6662.5 Vehicle Cleaners
 - 6662.6 Window Cleaners
- 6663 Janitors, Caretakers and Building Superintendents

667 Other Occupations in Travel, Accommodation, Amusement and Recreation

- 6671 Operators and Attendants in Amusement, Recreation and Sport
 - 6671.1 Amusement Attraction Operators
 - 6671.2 Attendants in Amusement, Recreation and Sport
- 6672 Other Attendants in Accommodation and Travel
 - 6672.1 Guest Service Attendants
 - 6672.2 Baggage Porters
 - 6672.3 Ship Attendants
 - 6672.4 Train Service Attendants

668 Other Elemental Service Occupations

- 6681 Dry Cleaning and Laundry Occupations
 - 6681.1 Dry Cleaning and Laundry Machine Operators
 - 6681.2 Dry Cleaning and Laundry Inspectors and Assemblers
- 6682 Ironing, Pressing and Finishing Occupations
- 6683 Other Elemental Service Occupations
 - 6683.1 Beauty Salon Attendants
 - 6683.2 Door Attendants
 - 6683.3 Funeral Home Attendants
 - 6683.4 Laundromat Attendants
 - 6683.5 Parking Lot Attendants and Car Jockeys
 - 6683.6 Ticket Takers and Ushers
 - 6683.7 Other Elemental Service Workers

Trades, Transport and Equipment Operators and Related Occupations

MAJOR GROUP 72-73

TRADES AND SKILLED TRANSPORT AND EQUIPMENT OPERATORS

721 Contractors and Supervisors, Trades and Related Workers

- 7211 Supervisors, Machinists and Related Occupations
- 7212 Contractors and Supervisors, Electrical Trades and Telecommunications Occupations
- 7213 Contractors and Supervisors, Pipefitting Trades
- 7214 Contractors and Supervisors, Metal Forming, Shaping and Erecting Trades
- 7215 Contractors and Supervisors, Carpentry Trades
- 7216 Contractors and Supervisors, Mechanic Trades
- 7217 Contractors and Supervisors, Heavy Construction Equipment Crews
- 7218 Supervisors, Printing and Related Occupations
- 7219 Contractors and Supervisors, Other Construction Trades, Installers, Repairers and Servicers

722 Supervisors, Railway and Motor Transportation Occupations

- 7221 Supervisors, Railway Transport Operations
- 7222 Supervisors, Motor Transport and Other Ground Transit Operators

723 Machinists and Related Occupations

- 7231 Machinists and Machining and Tooling Inspectors
 - 7231.1 Machinists
 - 7231.2 Machining and Tooling Inspectors
- 7232 Tool and Die Makers
 - 7232.1 Tool and Die Makers
 - 7232.2 Metal Patternmakers
 - 7232.3 Metal Mould Makers

724 Electrical Trades and Telecommunication Occupations

- 7241 Electricians (Except Industrial and Power System)
- 7242 Industrial Electricians
- 7243 Power System Electricians
- 7244 Electrical Power Line and Cable Workers
- 7245 Telecommunications Line and Cable Workers
- 7246 Telecommunications Installation and Repair Workers
 - 7246.1 Telephone Installers and Repairers
 - 7246.2 Switch Network Installers and Repairers
 - 7246.3 Telecommunications Service Testers
 - 7246.4 Telecommunications Equipment Technicians
- 7247 Cable Television Service and Maintenance Technicians
 - 7247.1 Cable Television Service Technicians
 - 7247.2 Cable Television Maintenance Technicians

725 Plumbers, Pipefitters and Gas Fitters

- 7251 Plumbers
- 7252 Steamfitters, Pipefitters and Sprinkler System Installers
 - 7252.1 Steamfitters and Pipefitters
 - 7252.2 Sprinkler System Installers
- 7253 Gas Fitters

726 Metal Forming, Shaping and Erecting Trades

- 7261 Sheet Metal Workers
- 7262 Boilermakers
- 7263 Structural Metal and Platework Fabricators and Fitters
- 7264 Ironworkers
- 7265 Welders and Related Machine Operators
 - 7265.1 Welders
 - 7265.2 Welding, Brazing and Soldering Machine Operators
- 7266 Blacksmiths and Die Setters
 - 7266.1 Blacksmiths
 - 7266.2 Die Setters

727 Carpenters and Cabinetmakers

- 7271 Carpenters
- 7272 Cabinetmakers

728 Masonry and Plastering Trades

- 7281 Bricklayers
- 7282 Concrete Finishers
- 7283 Tilesetters
- 7284 Plasterers, Drywall Installers and Finishers and Lathers
 - 7284.1 Plasterers
 - 7284.2 Drywall Installers and Finishers
 - 7284.3 Lathers

729 Other Construction Trades

- 7291 Roofers and Shinglers
 - 7291.1 Roofers
 - 7291.2 Shinglers
- 7292 Glaziers
- 7293 Insulators
- 7294 Painters and Decorators
- 7295 Floor Covering Installers

731 Machinery and Transportation Equipment Mechanics (Except Motor Vehicle)

- 7311 Construction Millwrights and Industrial Mechanics (Except Textile)
- 7312 Heavy-Duty Equipment Mechanics
- 7313 Refrigeration and Air Conditioning Mechanics

- 7314 Railway Carmen/women
- 7315 Aircraft Mechanics and Aircraft Inspectors
 - 7315.1 Aircraft Mechanics
 - 7315.2 Aircraft Inspectors
- 7316 Machine Fitters
- 7317 Textile Machinery Mechanics and Repairers
- 7318 Elevator Constructors and Mechanics

- 732 Automotive Service Technicians**
- 7321 Automotive Service Technicians, Truck Mechanics and Mechanical Repairers
 - 7321.1 Automotive Service Technicians
 - 7321.2 Mechanical Repairers, Motor Vehicle Manufacturing
 - 7321.3 Transport Truck and Trailer Mechanics
- 7322 Motor Vehicle Body Repairers

- 733 Other Mechanics**
- 7331 Oil and Solid Fuel Heating Mechanics
- 7332 Electric Appliance Servicers and Repairers
 - 7332.1 Small Appliance Servicers and Repairers
 - 7332.2 Major Appliance Repairers/Technicians
- 7333 Electrical Mechanics
- 7334 Motorcycle and Other Related Mechanics
- 7335 Other Small Engine and Equipment Mechanics

- 734 Upholsterers, Tailors, Shoe Repairers, Jewellers and Related Occupations**
- 7341 Upholsterers
- 7342 Tailors, Dressmakers, Furriers and Milliners
 - 7342.1 Tailors
 - 7342.2 Dressmakers
 - 7342.3 Furriers
 - 7342.4 Milliners
 - 7342.5 Alterationists
- 7343 Shoe Repairers and Shoemakers
 - 7343.1 Shoemakers
 - 7343.2 Shoe Repairers
- 7344 Jewellers, Watch Repairers and Related Occupations
 - 7344.1 Jewellers and Related Workers
 - 7344.2 Watch Repairers

- 735 Stationary Engineers and Power Station and System Operators**
- 7351 Stationary Engineers and Auxiliary Equipment Operators
- 7352 Power Systems and Power Station Operators
 - 7352.1 Power Systems Operators
 - 7352.2 Power Station Operators

736 Train Crew Operating Occupations

- 7361 Railway and Yard Locomotive Engineers
 - 7361.1 Railway Locomotive Engineers
 - 7361.2 Yard Locomotive Engineers
- 7362 Railway Conductors and Brakemen/women
 - 7362.1 Railway Conductors
 - 7362.2 Brakemen/women

737 Crane Operators, Drillers and Blasters

- 7371 Crane Operators
- 7372 Drillers and Blasters – Surface Mining, Quarrying and Construction
 - 7372.1 Drillers – Surface Mining, Quarrying and Construction
 - 7372.2 Blasters – Surface Mining, Quarrying and Construction
- 7373 Water Well Drillers

738 Printing Press Operators, Commercial Divers and Other Trades and Related Occupations, n.e.c.

- 7381 Printing Press Operators
- 7382 Commercial Divers
- 7383 Other Trades and Related Occupations
 - 7383.1 Gunsmiths
 - 7383.2 Locksmiths
 - 7383.3 Recreation Vehicle Technicians
 - 7383.4 Safe and Vault Servicers
 - 7383.5 Saw Fitters

**MAJOR GROUP 74
INTERMEDIATE OCCUPATIONS IN TRANSPORT, EQUIPMENT OPERATION, INSTALLATION
AND MAINTENANCE**

741 Motor Vehicle and Transit Drivers

- 7411 Truck Drivers
 - 7411.1 Long-Haul Truck Drivers
 - 7411.2 Line-Haul and Local Truck Drivers
- 7412 Bus Drivers and Subway and Other Transit Operators
 - 7412.1 Bus and Streetcar Drivers
 - 7412.2 School Bus Drivers
 - 7412.3 Subway Train and Light Rail Transit Operators
- 7413 Taxi and Limousine Drivers and Chauffeurs
 - 7413.1 Taxi and Limousine Drivers
 - 7413.2 Chauffeurs
- 7414 Delivery and Courier Service Drivers

742 Heavy Equipment Operators

- 7421 Heavy Equipment Operators (Except Crane)
- 7422 Public Works Maintenance Equipment Operators

743 Other Transport Equipment Operators and Related Workers

- 7431 Railway Yard Workers
- 7432 Railway Track Maintenance Workers
- 7433 Deck Crew, Water Transport
- 7434 Engine Room Crew, Water Transport
- 7435 Lock and Cable Ferry Operators and Related Occupations
 - 7435.1 Lock Equipment Operators
 - 7435.2 Cable Ferry Operators
 - 7435.3 Ferry Terminal Workers
- 7436 Boat Operators
- 7437 Air Transport Ramp Attendants

744 Other Installers, Repairers and Servicers

- 7441 Residential and Commercial Installers and Servicers
- 7442 Waterworks and Gas Maintenance Workers
 - 7442.1 Waterworks Maintenance Workers
 - 7442.2 Gas Maintenance Workers
- 7443 Automotive Mechanical Installers and Servicers
- 7444 Pest Controllers and Fumigators
- 7445 Other Repairers and Servicers

745 Longshore Workers and Material Handlers

- 7451 Longshore Workers
- 7452 Material Handlers
 - 7452.1 Material Handlers (Manual)
 - 7452.2 Material Handlers (Equipment Operators)

MAJOR GROUP 76**TRADES HELPERS, CONSTRUCTION LABOURERS AND RELATED OCCUPATIONS****761 Trades Helpers and Labourers**

- 7611 Construction Trades Helpers and Labourers
- 7612 Other Trades Helpers and Labourers

762 Public Works and Other Labourers, n.e.c.

- 7621 Public Works and Maintenance Labourers
- 7622 Railway and Motor Transport Labourers
 - 7622.1 Railway Labourers
 - 7622.2 Motor Transport Labourers

Occupations Unique to Primary Industry

MAJOR GROUP 82
SKILLED OCCUPATIONS IN PRIMARY INDUSTRY

821 Supervisors, Logging and Forestry

8211 Supervisors, Logging and Forestry

822 Supervisors, Mining, Oil and Gas

8221 Supervisors, Mining and Quarrying

8222 Supervisors, Oil and Gas Drilling and Service

823 Underground Miners, Oil and Gas Drillers and Related Workers

8231 Underground Production and Development Miners

8232 Oil and Gas Well Drillers, Servicers, Testers and Related Workers

8232.1 Oil and Gas Well Drillers and Well Servicers

8232.2 Oil and Gas Well Loggers, Testers and Related Workers

824 Logging Machinery Operators

8241 Logging Machinery Operators

8241.1 Cable Yarding System Operators

8241.2 Mechanical Harvester and Forwarder Operators

8241.3 Mechanical Tree Processor and Loader Operators

825 Contractors, Operators and Supervisors in Agriculture, Horticulture and Aquaculture

8251 Farmers and Farm Managers

8252 Agricultural and Related Service Contractors and Managers

8253 Farm Supervisors and Specialized Livestock Workers

8253.1 Farm Supervisors

8253.2 Specialized Livestock Workers

8254 Nursery and Greenhouse Operators and Managers

8255 Landscaping and Grounds Maintenance Contractors and Managers

8256 Supervisors, Landscape and Horticulture

8257 Aquaculture Operators and Managers

826 Fishing Vessel Masters and Skippers and Fishermen/women

8261 Fishing Masters and Officers

8262 Fishing Vessel Skippers and Fishermen/women

MAJOR GROUP 84
INTERMEDIATE OCCUPATIONS IN PRIMARY INDUSTRY

841 Mine Service Workers and Operators in Oil and Gas Drilling

- 8411 Underground Mine Service and Support Workers
- 8412 Oil and Gas Well Drilling Workers and Services Operators
 - 8412.1 Oil and Gas Well Drilling Workers
 - 8412.2 Oil and Gas Well Services Operators

842 Logging and Forestry Workers

- 8421 Chainsaw and Skidder Operators
- 8422 Silviculture and Forestry Workers

843 Agriculture and Horticulture Workers

- 8431 General Farm Workers
- 8432 Nursery and Greenhouse Workers

844 Other Fishing and Trapping Occupations

- 8441 Fishing Vessel Deckhands
- 8442 Trappers and Hunters
 - 8442.1 Trappers
 - 8442.2 Hunters

MAJOR GROUP 86
LABOURERS IN PRIMARY INDUSTRY

861 Primary Production Labourers

- 8611 Harvesting Labourers
- 8612 Landscaping and Grounds Maintenance Labourers
- 8613 Aquaculture and Marine Harvest Labourers
 - 8613.1 Aquaculture Support Workers
 - 8613.2 Marine Plant Gatherers
 - 8613.3 Shellfish Harvesters
- 8614 Mine Labourers
- 8615 Oil and Gas Drilling, Servicing and Related Labourers
- 8616 Logging and Forestry Labourers

Occupations Unique to Processing, Manufacturing and Utilities

MAJOR GROUP 92

PROCESSING, MANUFACTURING AND UTILITIES SUPERVISORS AND SKILLED OPERATORS

921 Supervisors, Processing Occupations

- 9211 Supervisors, Mineral and Metal Processing
- 9212 Supervisors, Petroleum, Gas and Chemical Processing and Utilities
- 9213 Supervisors, Food, Beverage and Tobacco Processing
- 9214 Supervisors, Plastic and Rubber Products Manufacturing
- 9215 Supervisors, Forest Products Processing
- 9216 Supervisors, Textile Processing

922 Supervisors, Assembly and Fabrication

- 9221 Supervisors, Motor Vehicle Assembling
- 9222 Supervisors, Electronics Manufacturing
- 9223 Supervisors, Electrical Products Manufacturing
- 9224 Supervisors, Furniture and Fixtures Manufacturing
- 9225 Supervisors, Fabric, Fur and Leather Products Manufacturing
- 9226 Supervisors, Other Mechanical and Metal Products Manufacturing
- 9227 Supervisors, Other Products Manufacturing and Assembly

923 Central Control and Process Operators in Manufacturing and Processing

- 9231 Central Control and Process Operators, Mineral and Metal Processing
- 9232 Petroleum, Gas and Chemical Process Operators
- 9233 Pulping Control Operators
- 9234 Papermaking and Coating Control Operators

MAJOR GROUP 94-95

PROCESSING AND MANUFACTURING MACHINE OPERATORS AND ASSEMBLERS

941 Machine Operators and Related Workers in Metal and Mineral Products Processing

- 9411 Machine Operators, Mineral and Metal Processing
- 9412 Foundry Workers
 - 9412.1 Manual Mouldmakers
 - 9412.2 Manual Coremakers
 - 9412.3 Machine Mouldmakers and Coremakers
 - 9412.4 Metal Casters
 - 9412.5 Foundry Furnace Operators
- 9413 Glass Forming and Finishing Machine Operators and Glass Cutters
 - 9413.1 Glass Process Control Operators
 - 9413.2 Glass Forming Machine Operators
 - 9413.3 Glass Finishing Machine Operators
 - 9413.4 Glass Cutters

- 9414 Concrete, Clay and Stone Forming Operators
 - 9414.1 Concrete Products Forming and Finishing Workers
 - 9414.2 Concrete Products Machine Operators
 - 9414.3 Clay Products Forming and Finishing Machine Operators
 - 9414.4 Stone Forming and Finishing Workers
- 9415 Inspectors and Testers, Mineral and Metal Processing

- 942 Machine Operators and Related Workers in Chemical, Plastic and Rubber Processing**
- 9421 Chemical Plant Machine Operators
- 9422 Plastics Processing Machine Operators
 - 9422.1 Mixing Machine Operators
 - 9422.2 Calendering Process Operators
 - 9422.3 Extruding Process Operators
 - 9422.4 Moulding Process Operators
- 9423 Rubber Processing Machine Operators and Related Workers
 - 9423.1 Rubber Processing Machine Operators
 - 9423.2 Assemblers, Rubber Products
 - 9423.3 Rubber Products Inspectors
- 9424 Water and Waste Plant Operators
 - 9424.1 Water Plant Operators
 - 9424.2 Waste Plant Operators

- 943 Machine Operators and Related Workers in Pulp and Paper Production and Wood Processing**
- 9431 Sawmill Machine Operators
- 9432 Pulp Mill Machine Operators
- 9433 Papermaking and Finishing Machine Operators
- 9434 Other Wood Processing Machine Operators
- 9435 Paper Converting Machine Operators
- 9436 Lumber Graders and Other Wood Processing Inspectors and Graders
 - 9436.1 Lumber Graders
 - 9436.2 Other Wood Processing Inspectors and Graders

- 944 Machine Operators and Related Workers in Textile Processing**
- 9441 Textile Fibre and Yarn Preparation Machine Operators
- 9442 Weavers, Knitters and Other Fabric-Making Occupations
- 9443 Textile Dyeing and Finishing Machine Operators
- 9444 Textile Inspectors, Graders and Samplers

- 945 Machine Operators and Related Workers in Fabric, Fur and Leather Products Manufacturing**
- 9451 Sewing Machine Operators
- 9452 Fabric, Fur and Leather Cutters
 - 9452.1 Fabric Cutters
 - 9452.2 Fur Cutters
 - 9452.3 Leather Cutters

- 9453 Hide and Pelt Processing Workers
- 9454 Inspectors and Testers, Fabric, Fur and Leather Products Manufacturing

946 Machine Operators and Related Workers in Food, Beverage and Tobacco Processing

- 9461 Process Control and Machine Operators, Food and Beverage Processing
 - 9461.1 Process Control Operators, Food and Beverage Processing
 - 9461.2 Machine Operators, Food and Beverage Processing
- 9462 Industrial Butchers and Meat Cutters, Poultry Preparers and Related Workers
 - 9462.1 Industrial Butchers
 - 9462.2 Industrial Meat Cutters
 - 9462.3 Poultry Preparers
 - 9462.4 Trimmers
- 9463 Fish Plant Workers
 - 9463.1 Fish Plant Machine Operators
 - 9463.2 Fish Plant Cutters and Cleaners
- 9464 Tobacco Processing Machine Operators
- 9465 Testers and Graders, Food and Beverage Processing

947 Printing Machine Operators and Related Occupations

- 9471 Printing Machine Operators
- 9472 Camera, Platemaking and Other Pre-Press Occupations
 - 9472.1 Graphic Arts Camera Operators
 - 9472.2 Cylinder Preparers
 - 9472.3 Film Strippers/Assemblers
 - 9472.4 Platemakers
 - 9472.5 Pre-Press Technicians
 - 9472.6 Scanner Operators
 - 9472.7 Proofmakers
- 9473 Binding and Finishing Machine Operators
 - 9473.1 Binding and Finishing Machine Operators
 - 9473.2 Specialty Finishing Equipment Operators
- 9474 Photographic and Film Processors

948 Mechanical, Electrical and Electronics Assemblers

- 9481 Aircraft Assemblers and Aircraft Assembly Inspectors
 - 9481.1 Aircraft Assemblers
 - 9481.2 Aircraft Assembly Inspectors
- 9482 Motor Vehicle Assemblers, Inspectors and Testers
 - 9482.1 Motor Vehicle Assemblers
 - 9482.2 Motor Vehicle Inspectors and Testers
- 9483 Electronics Assemblers, Fabricators, Inspectors and Testers
 - 9483.1 Electronics Assemblers
 - 9483.2 Electronics Fabricators
 - 9483.3 Electronics Inspectors
 - 9483.4 Electronics Testers

- 9484 Assemblers and Inspectors, Electrical Appliance, Apparatus and Equipment Manufacturing
 - 9484.1 Assemblers, Electrical Appliance, Apparatus and Equipment Manufacturing
 - 9484.2 Inspectors and Testers, Electrical Appliance, Apparatus and Equipment Manufacturing
- 9485 Assemblers, Fabricators and Inspectors, Industrial Electrical Motors and Transformers
 - 9485.1 Assemblers, Industrial Electrical Motors and Transformers
 - 9485.2 Electrical Fitters and Wires, Industrial Electrical Motors and Transformers
 - 9485.3 Inspectors, Industrial Electrical Motors and Transformers
- 9486 Mechanical Assemblers and Inspectors
 - 9486.1 Mechanical Assemblers
 - 9486.2 Mechanical Inspectors
- 9487 Machine Operators and Inspectors, Electrical Apparatus Manufacturing
 - 9487.1 Machine Operators, Electrical Apparatus Manufacturing
 - 9487.2 Inspectors and Testers, Electrical Apparatus Manufacturing
- 949 Other Assembly and Related Occupations**
- 9491 Boat Assemblers and Inspectors
 - 9491.1 Boat Assemblers
 - 9491.2 Boat Inspectors
- 9492 Furniture and Fixture Assemblers and Inspectors
 - 9492.1 Furniture and Fixture Assemblers
 - 9492.2 Furniture and Fixture Inspectors
- 9493 Other Wood Products Assemblers and Inspectors
 - 9493.1 Other Wood Products Assemblers
 - 9493.2 Other Wood Products Inspectors
- 9494 Furniture Finishers and Refinishers
 - 9494.1 Furniture Finishers
 - 9494.2 Furniture Refinishers
- 9495 Plastic Products Assemblers, Finishers and Inspectors
 - 9495.1 Plastic Products Assemblers and Finishers
 - 9495.2 Plastic Products Inspectors
- 9496 Painters and Coaters – Industrial
- 9497 Plating, Metal Spraying and Related Operators
- 9498 Other Assemblers and Inspectors
 - 9498.1 Other Assemblers
 - 9498.2 Other Inspectors
- 951 Machining, Metalworking, Woodworking and Related Machine Operators**
- 9511 Machining Tool Operators
- 9512 Forging Machine Operators
- 9513 Woodworking Machine Operators
- 9514 Metalworking Machine Operators
- 9516 Other Metal Products Machine Operators
- 9517 Other Products Machine Operators

MAJOR GROUP 96**LABOURERS IN PROCESSING, MANUFACTURING AND UTILITIES****961 Labourers in Processing, Manufacturing and Utilities**

- 9611 Labourers in Mineral and Metal Processing
- 9612 Labourers in Metal Fabrication
- 9613 Labourers in Chemical Products Processing and Utilities
- 9614 Labourers in Wood, Pulp and Paper Processing
- 9615 Labourers in Rubber and Plastic Products Manufacturing
- 9616 Labourers in Textile Processing
- 9617 Labourers in Food, Beverage and Tobacco Processing
- 9618 Labourers in Fish Processing
- 9619 Other Labourers in Processing, Manufacturing and Utilities

**The Groups of
the *Career Handbook***

Management Occupations

Management Occupations

MAJOR GROUP 00 SENIOR MANAGEMENT OCCUPATIONS

001 Legislators and Senior Management

- 0011 Legislators
- 0012 Senior Government Managers and Officials
- 0013 Senior Managers – Financial, Communications and Other Business Services
- 0014 Senior Managers – Health, Education, Social and Community Services and Membership Organizations
- 0015 Senior Managers – Trade, Broadcasting and Other Services, n.e.c.*
- 0016 Senior Managers – Goods Production, Utilities, Transportation and Construction

MAJOR GROUP 01-09 MIDDLE AND OTHER MANAGEMENT OCCUPATIONS

011 Administrative Services Managers

- 0111 Financial Managers
- 0112 Human Resources Managers
- 0113 Purchasing Managers
- 0114 Other Administrative Services Managers

012 Managers in Financial and Business Services

- 0121 Insurance, Real Estate and Financial Brokerage Managers
 - 0121.1 Insurance Managers
 - 0121.2 Real Estate Service Managers
 - 0121.3 Mortgage Broker Managers
 - 0121.4 Securities Managers
- 0122 Banking, Credit and Other Investment Managers
 - 0122.1 Banking and Other Investment Managers
 - 0122.2 Credit Managers
- 0123 Other Business Services Managers

013 Managers in Communication (Except Broadcasting)

- 0131 Telecommunication Carriers Managers
- 0132 Postal and Courier Services Managers

021 Managers in Engineering, Architecture, Science and Information Systems

- 0211 Engineering Managers
- 0212 Architecture and Science Managers
- 0213 Computer and Information Systems Managers

* n.e.c = not elsewhere classified

031 Managers in Health, Education, Social and Community Services

- 0311 Managers in Health Care
- 0312 Administrators – Post-Secondary Education and Vocational Training
 - 0312.1 Faculty Administrators
 - 0312.2 Registrars
 - 0312.3 Administrators of Vocational Training Schools
- 0313 School Principals and Administrators of Elementary and Secondary Education
 - 0313.1 School Principals
 - 0313.2 Administrators of Elementary and Secondary Education
- 0314 Managers in Social, Community and Correctional Services

041 Managers in Public Administration

- 0411 Government Managers – Health and Social Policy Development and Program Administration
- 0412 Government Managers – Economic Analysis, Policy Development and Program Administration
- 0413 Government Managers – Education Policy Development and Program Administration
- 0414 Other Managers in Public Administration

051 Managers in Art, Culture, Recreation and Sport

- 0511 Library, Archive, Museum and Art Gallery Managers
- 0512 Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts
- 0513 Recreation and Sports Program and Service Directors

061 Sales, Marketing and Advertising Managers

- 0611 Sales, Marketing and Advertising Managers
 - 0611.1 Sales Managers
 - 0611.2 Marketing Managers
 - 0611.3 Advertising Managers
 - 0611.4 Public Relations Managers
 - 0611.5 E-commerce Managers

062 Managers in Retail Trade

- 0621 Retail Trade Managers

063 Managers in Food Service and Accommodation

- 0631 Restaurant and Food Service Managers
- 0632 Accommodation Service Managers

064 Managers in Protective Service

- 0641 Commissioned Police Officers
- 0642 Fire Chiefs and Senior Firefighting Officers
- 0643 Commissioned Officers, Armed Forces

065 Managers in Other Services

- 0651 Other Services Managers

071 Managers in Construction and Transportation

- 0711 Construction Managers
- 0712 Residential Home Builders and Renovators
- 0713 Transportation Managers
 - 0713.1 Transportation Managers, Operations
 - 0713.2 Transportation Managers, Freight Traffic

072 Facility Operation and Maintenance Managers

- 0721 Facility Operation and Maintenance Managers
 - 0721.1 Facility Operation Managers
 - 0721.2 Maintenance Managers

081 Managers in Primary Production (Except Agriculture)

- 0811 Primary Production Managers (Except Agriculture)

091 Managers in Manufacturing and Utilities

- 0911 Manufacturing Managers
- 0912 Utilities Managers
 - 0912.1 Water Supply Managers
 - 0912.2 Electrical Power Distribution Managers
 - 0912.3 Natural Gas Supply Managers
 - 0912.4 Petroleum Product Distribution Managers
 - 0912.5 Water Pollution Control Managers
 - 0912.6 Waste Systems Managers

0011 Legislators

Legislators participate in the activities of federal, provincial, territorial and local government legislative bodies or executive councils, band councils and school boards as elected and appointed members.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4
INTERESTS								
DSm								
DATA PEOPLE THINGS (DPT)								
018								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
1+								

Examples of Job Titles

- cabinet minister
- city councillor
- First Nations band chief
- governor general
- lieutenant-governor
- mayor
- member of Parliament (MP)
- member of the National Assembly (MNA)
- member of the Provincial Parliament (MPP)
- premier
- prime minister
- school board trustee
- senator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **clerical perception** to enact, amend or repeal laws and regulations
- **Verbal ability** to represent specific government at local, national and international meetings and conferences

- **Directive interest** in **synthesizing** information to respond to matters of concern raised by constituents and the general public; may serve as minister responsible for a government department or agency and direct senior government managers and officials in the implementation of government policy and the management of that department or agency
- **Social interest** in **negotiating** to develop and amend government policies, programs and procedures
- **Methodical interest** in amending laws and regulations according to established policies and procedures

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction
- Body Position
- 1 Sitting
- Limb Co-ordination
- 0 Not relevant
- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 1+
- Election to a legislative body, or appointment to positions such as lieutenant-governor or governor general, is required.

Workplaces/Employers

- Band councils
- Executive councils
- Federal government
- Local governments
- Provincial governments
- School boards
- Territorial governments

Similar Occupations Classified Elsewhere

- Commissioners – government services (in 0012 *Senior Government Managers and Officials*)
- Elected or appointed officials of health care institutions, educational institutions, unions and voluntary organizations (in 0014 *Senior Managers – Health, Education, Social and Community Services and Membership Organizations*)

0012 Senior Government Managers and Officials

Senior government managers and officials plan, organize, direct, control and evaluate, through middle managers, the major activities of municipal and regional governments, and provincial, territorial and federal departments, boards, agencies and commissions. They establish the direction these organizations take according to policies made by elected representatives and legislative bodies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

018

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, 8+

Examples of Job Titles

assistant deputy minister
chairperson, Human Rights Commission
chief administrative officer – regional municipality
chief statistician – government services
city administrator
deputy minister
director general – government services
executive director – government services
high commissioner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to establish objectives for the organization according to government policy and to formulate, approve and evaluate programs and procedures
- **Verbal and numerical ability** to advise elected representatives on policy questions and refer any major policy matters to these representatives for final decisions, as well as to make presentations to legislative and other government committees regarding policies, programs and budgets
- **Directive interest** in synthesizing information to approve programs; to recommend, review, evaluate and approve documents, briefs and reports submitted by middle managers and senior staff members; and to co-ordinate departmental activities with other senior government managers and officials
- **Methodical interest** in ensuring systems and procedures are developed and implemented to provide budgetary controls
- **Social interest** in negotiating with senior government committees to formulate programs and procedures for the organization

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, 8+

- A university degree or college diploma is usually required.
- A graduate degree in a related field may be required.
- Several years of managerial experience in the public or private sector are required.

Workplaces/Employers

Agencies

Boards

Commissions

Federal departments

Municipal governments

Provincial/territorial governments

Regional governments

Similar Occupations Classified Elsewhere

Legislators (0011)

Middle managers in government (in 041
Managers in Public Administration)

0013

Senior Managers – Financial, Communications and Other Business Services

Senior managers in this group plan, organize, direct, control and evaluate, through middle managers, the operations of finance, communications and other business service companies. Working either alone or in conjunction with the board of directors, they develop and establish objectives for companies and develop and approve policies and programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

018

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

- bank president
- chief executive officer (CEO) – telephone company
- chief financial officer (CFO) – advertising agency
- chief operating officer – engineering firm
- executive director, credit union
- executive vice-president, real estate agency
- general manager, real estate management company
- president and chief executive officer
- president, advertising agency
- president, computing service company
- regional vice-president, trust company
- vice-president, human resources – bank
- vice-president, operations – satellite communication services

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine the company's mission and strategic direction as conveyed through policies and concrete objectives which they meet through the effective management of human, financial and physical resources
- **Verbal ability** to represent the organization in negotiations and other official functions
- **Numerical ability and clerical perception** to allocate financial, human and material resources to implement organizational policies and programs; and to establish financial and administrative controls
- **Directive interest** in synthesizing information to authorize the establishment of departments and associated senior staff positions; to approve overall human resources planning; to select middle managers, directors and other executive staff; and to approve promotional campaigns
- **Methodical interest** in organizing the establishment of major departments and associated senior staff positions; and in formulating promotional campaigns
- **Social interest** in negotiating with a board of directors to formulate policies and programs; and in delegating representatives to act on behalf of the organization

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	0	Not relevant
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
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Employment Requirements

- Education/Training
7+, R
- A university degree in business administration, commerce, computer science or other discipline related to the service provided is usually required.
 - Several years of experience as a middle manager in financial, communications or other business services are usually required.
 - Specialization in a particular functional area or service is possible either through specific university training in that area or through previous experience.
 - Senior managers in finance usually require a professional accounting designation.

Workplaces/Employers

Financial, communications and other business service companies

Similar Occupations Classified Elsewhere

- Managers in Communication (Except Broadcasting)* (013)
- Managers in Engineering, Architecture, Science and Information Systems* (021)
- Managers in Financial and Business Services* (012)

Remarks

Senior managers in this group are usually appointed by a board of directors, to which they report.

Senior managers in this group may specialize in areas such as finance, marketing or human resources or in a particular service area.

The boundaries of this group are defined by the North American Industry Classification System (NAICS). Included are senior managers in the following industries: communications, finance and insurance, real estate and business services.

0014

Senior Managers – Health, Education, Social and Community Services and Membership Organizations

Senior managers in this group plan, organize, direct, control and evaluate, through middle managers, membership and other organizations or institutions that deliver health, educational, social and community services. They formulate policies which establish the direction these organizations will take, either alone or in conjunction with a board of directors.

Profile Summary										Examples of Job Titles	
APTITUDES											
G	V	N	S	P	Q	K	F	M			chairperson, arts and culture association
1	1	2	4	4	3	4	4	4			chairperson, scientific association
INTERESTS											
DMs											chief financial officer (CFO), educational institution
DATA PEOPLE THINGS (DPT)											corporate controller, social services institution
018											executive director, health services institution
PHYSICAL ACTIVITIES (PA)											executive director, professional association
V	C	H	B	L	S						executive director, voluntary organization
2	0	2	1	0	1						general manager, membership organization
ENVIRONMENTAL CONDITIONS (EC)											president, business association
L1											president, labour organization
EDUCATION/TRAINING											president, music guild
6+, 7+, R											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to establish objectives for the organization and to formulate and approve policies and programs
 - **Verbal ability** to represent the organization in negotiations and other official functions
- **Numerical ability and clerical perception** to allocate financial, human and material resources to implement organizational policies and programs; and establish financial and administrative controls
 - **Directive interest in synthesizing** information to authorize the establishment of departments and associated senior staff positions; to approve overall human resource planning; to co-ordinate the work of regions, divisions and departments; to select middle managers, directors and other executive staff; and to approve promotional campaigns
- **Methodical interest** in establishing and organizing major departments and associated senior staff positions; and in formulating promotional campaigns
 - **Social interest in negotiating** with a board of directors to formulate policies and programs; and in delegating representatives to act on behalf of the organization

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A university degree or college diploma in business administration, hospital administration, finance or other discipline related to the service provided is usually required.
- Several years of experience as a middle manager in a related institution or organization are usually required.
- Specialization in a particular functional area or service is possible either through specific university or college training in that area or through previous experience.
- Senior managers in finance usually require a professional accounting designation.

Workplaces/Employers

Labour organizations

Organizations that deliver health, education, social or community services

Professional associations

Volunteer organizations

Similar Occupations Classified Elsewhere

Administrators – Post-Secondary Education and Vocational Training (0312)

Government Managers – Education Policy Development and Program Administration (0413)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Managers in Health Care (0311)

Managers in Social, Community and Correctional Services (0314)

Other Managers in Public Administration (0414)

School Principals and Administrators of Elementary and Secondary Education (0313)

Remarks

Senior managers in this group may specialize in areas such as finance, marketing, human resources or in a particular service area.

The boundaries of this group are defined by the North American Industry Classification System (NAICS). Included are senior managers in the following industries: educational services, health care and social services and membership organizations.

0015

Senior Managers – Trade, Broadcasting and Other Services, n.e.c.

Senior managers in this group plan, organize, direct, control and evaluate, through middle managers, trade, broadcasting and other service companies not elsewhere classified. They formulate policies which establish the direction these companies will take, either alone or in conjunction with a board of directors.

Profile Summary

Aptitudes

G	V	N	S	P	Q	K	F	M
1	2	2	4	4	3	4	4	4

Interests

DMs

Data People Things (DPT)

018

Physical Activities (PA)

V	C	H	B	L	S
2	0	2	1	0	1

Environmental Conditions (EC)

L1

Education/Training

6+, 7+, R

Examples of Job Titles

chief executive officer (CEO), travel agency

chief financial officer (CFO), professional sports club

corporate controller, restaurant chain

executive director, automobile association

general manager, cleaning service

president, department store

regional vice-president, hotel chain

vice-president, engineering – television broadcasting services

vice-president, finance – food wholesaling

vice-president, marketing – grocery store chain

vice-president, operations – radio broadcasting services

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to establish objectives for the company and to formulate and approve policies and programs
 - **Verbal ability** to represent the company in negotiations and other official functions
- **Numerical ability and clerical perception** to allocate financial, human and material resources to implement organizational policies and programs; and establish financial and administrative controls
 - **Directive interest in synthesizing** information to authorize the establishment of departments and associated senior staff positions; to approve overall human resource planning; to co-ordinate the work of regions, divisions and departments; to select middle managers, directors and other executive staff; and to approve promotional campaigns
- **Methodical interest** in organizing the establishment of major departments and associated senior staff positions; and in formulating promotional campaigns
 - **Social interest in negotiating** with a board of directors to formulate policies and programs; and in delegating representatives to act on behalf of the organization

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, R

- A university degree or college diploma in business administration, finance or other discipline related to the service provided is usually required.
- Several years of experience as a middle manager in trade, broadcasting or other service are usually required.
- Specialization in a particular functional area or service is possible either through specific university or college training in that area or through previous experience.
- Senior managers in finance usually require a professional accounting designation.

Workplaces/Employers

Trade, broadcasting and other service companies

Similar Occupations Classified Elsewhere

Managers in Art, Culture, Recreation and Sport (051)

Managers in Food Service and Accommodation (063)

Managers in Retail Trade (062)

Other Services Managers (0651)

Remarks

Senior managers in this group may specialize in areas such as finance, marketing or human resources or in the sale of a particular product or provision of a particular service.

The boundaries of this group are defined by the North American Industry Classification System (NAICS). Included are senior managers in the following industries: broadcasting and telecommunications, wholesale trade, retail trade, accommodation and food service, and other services not elsewhere classified.

0016

Senior Managers – Goods Production,
Utilities,Transportation and Construction

Senior managers in this group plan, organize, direct, control and evaluate, through middle managers, goods production, utility, transportation and construction companies. They formulate policies that establish the direction the companies will take, either alone or in conjunction with other members of a board of directors.

Profile Summary									Examples of Job Titles		
APTITUDES									chief executive officer (CEO) – manufacturing company		
G	V	N	S	P	Q	K	F	M	chief financial officer (CFO) – urban transit system		
1	2	2	4	4	3	4	4	4	corporate controller, logging company		
INTERESTS									executive vice-president – railway		
DMs									general manager, trucking company		
DATA PEOPLE THINGS (DPT)									president, residential construction company		
018									publishing house general manager		
PHYSICAL ACTIVITIES (PA)									regional vice-president, petroleum production company		
V	C	H	B	L	S					vice-president, finance – mining company	
2	0	2	1	0	1					vice-president, marketing – airline	
ENVIRONMENTAL CONDITIONS (EC)									vice-president, operations – electric power company		
L1									vice-president, sales – pulp and paper manufacturing		
EDUCATION/TRAINING											
6+, 7+, R											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to establish company objectives and to formulate and approve policies and programs
- **Verbal ability** to represent the company in negotiations and other official functions

- **Numerical ability and clerical perception** to allocate financial, human and material resources to implement company policies and programs; and to establish financial and administrative controls
- **Directive interest in synthesizing** information to authorize the establishment of departments and associated senior staff positions; to approve overall personnel planning; to co-ordinate the work of regions, divisions or departments; to select middle managers, directors and other executive staff; and to approve promotional campaigns

- **Methodical interest** in organizing the establishment of major departments and associated senior staff positions; and in formulating promotional campaigns
- **Social interest** in negotiating with members of a board of directors to formulate policies and programs; and in delegating representatives to act on behalf of the organization

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A university degree or college diploma in engineering, business administration, commerce or other discipline related to the company's product is usually required.
- Several years of experience as a middle manager in goods production, utilities, transportation or construction are usually required.
- Specialization in a particular functional area or product is possible either through specific university or college training in that area or through previous experience.
- Senior managers in finance usually require a professional accounting designation.

Workplaces/Employers

Goods production, utility, transportation and construction companies

Similar Occupations Classified Elsewhere

Managers in Construction and Transportation (071)

Managers in Manufacturing and Utilities (091)

Primary Production Managers (Except Agriculture) (0811)

Remarks

Senior managers in this group may specialize in areas such as finance, marketing or human resources or in a particular product area.

The boundaries of this group are defined by the North American Industry Classification System (NAICS). Included are senior managers in the following industries: fishing, forestry and logging; mining, oil and gas extraction; manufacturing; printing and publishing; construction; transportation and warehousing; and utilities.

0111 Financial Managers

Financial managers plan, organize, direct, control and evaluate the operation of financial and accounting departments. They develop and implement the financial policies and systems of establishments. Financial managers establish performance standards and prepare various financial reports for senior management.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

- controller
- director – financial services
- director of accounting
- finance director
- financial administrator
- manager, financial control
- manager, financial planning and analysis
- manager, internal audit services
- treasurer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability and clerical perception** to develop and implement the financial systems and procedures of establishments and to evaluate financial reporting systems, accounting procedures and investment activities
- **Verbal and numerical ability** to prepare financial statements, summaries and other cost-benefit analyses and financial management reports; and to establish profitability standards for investment activities and handle mergers and/or acquisitions
- **Directive interest in co-ordinating** information to plan, organize, direct, control and evaluate the operations of accounting, audit and other financial departments; in recruiting, organizing, training and managing staff; in co-ordinating the financial planning and budget process; and in supervising the development and implementation of financial simulation models
- **Methodical interest** in making recommendations to senior managers for changes to procedures, operating systems, budgets and other financial control functions; in analyzing and correcting estimates; and in reporting to senior management concerning any trends that are critical to the organization's financial performance
- **Social interest in negotiating** with senior management to arrive at decisions in the development of financial policies; and in acting as a liaison between the organization and its shareholders, the investing public and external financial analysts

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, 8+, R

- A bachelor's degree in business administration, economics, commerce or a related field is required.
- Accounting and audit managers may require a recognized accounting designation (CA, CMA or CGA).
- A master's degree in business administration (concentration in finance), or another master's-level management program may be required.
- Several years of experience in accounting, auditing, budgeting, financial planning and analysis or other financial activities are required.

Workplaces/Employers

Financial and accounting departments in companies throughout the private sector

Financial and accounting units throughout the public sector

Occupational Options

Progression to senior management positions, such as vice-president of finance, is possible with experience.

Similar Occupations Classified Elsewhere

Banking, Credit and Other Investment Managers (0122)

Managers of accounting and auditing firms (in 0123 *Other Business Services Managers*)

Senior Managers – Financial, Communications and Other Business Services (0013)

0112 Human Resources Managers

Human resources managers plan, organize, direct, control and evaluate the operations of human resource and personnel departments, and develop and implement policies, programs and procedures regarding human resource planning, recruitment, collective bargaining, training and development, occupational classification, and pay and benefit administration. They represent management and participate actively on various joint committees to maintain ongoing relations between management and employees.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	4	4	3	4	4	4

INTERESTS

DSm

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 7+

Examples of Job Titles

- administrator, human resources
- manager, employer-employee relations
- manager, employment equity – human resources
- manager, human resources
- manager, industrial relations
- manager, occupational health and safety
- manager, pay and benefits
- manager, personnel
- manager, personnel services
- manager, personnel training and development
- manager, recruiting
- manager, staff relations

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop and implement labour relation policies and procedures and to administer employee development, language training and health and safety programs
- **Verbal and numerical ability** to organize and conduct employee information meetings on employment policies, benefits and compensation
- **Directive interest in co-ordinating** information to plan, organize, direct control and evaluate the operation of human resource and personnel departments, and to oversee the classification and rating of occupations; in co-ordinating internal and external training and recruiting activities; and in directing the organization's quality management program
- **Social interest in negotiating** with other departmental managers to plan human resource requirements, and in negotiating collective agreements; in advising and assisting other departmental managers on interpreting and administering personnel policies and programs, and in participating actively on various joint committees
- **Methodical interest** in developing and implementing labour relations procedures and in ensuring compliance with legislation such as the *Pay Equity Act*

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 7+

- A bachelor's degree in a field related to personnel management, such as business administration, industrial relations, commerce or psychology *or* completion of a professional development program in personnel administration is required.
- Several years of experience as a personnel officer or human resource specialist are required.

Workplaces/Employers

Human resources departments throughout the private and public sectors

Occupational Options

Progression to senior management positions is possible with experience.

Other joint committees led by human resources managers may focus on issues related to employee assistance.

Similar Occupations Classified Elsewhere

Specialists in Human Resources (1121)

0113 Purchasing Managers

Purchasing managers plan, organize, direct, control and evaluate the activities of purchasing departments, and develop and implement the purchasing policies of businesses and institutions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

- contract manager
- director, procurement operations
- director, purchasing
- food purchasing manager
- manager, purchasing contracts
- material manager
- purchasing manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop purchasing policies and procedures and to evaluate goods and services in relation to quality standards and delivery requirements
- **Verbal ability** to interview, hire and oversee training of staff
- **Numerical ability** to evaluate cost of goods and services and to control purchasing department budgets
- **Directive interest** in **co-ordinating** information to plan, organize, direct, control and evaluate the purchasing activities of establishments, and to approve contracts, purchase orders and invoices
- **Methodical interest** in identifying vendors of materials, equipment and supplies, in reviewing and processing claims against suppliers, and in participating in the development of specifications for equipment, products and substitute materials
- **Social interest** in **negotiating** and overseeing the negotiation of purchase contracts

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A bachelor's degree or college diploma in business administration, commerce or economics is usually required.
- Purchasing managers responsible for units purchasing specialized materials or business services may require a related degree or diploma. For example, a bachelor's degree or college diploma in engineering may be required for purchasing managers responsible
- The designation Certified Professional Purchaser (C.P.P.) or registration in the educational program of the Purchasing Management Association of Canada may be required.
- Several years of experience as a purchasing agent or officer are required.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

Purchasing Agents and Officers (1225)

Retail and Wholesale Buyers (6233)

Warehouse managers (in 0721 Facility Operation and Maintenance Managers)

0114 Other Administrative Services Managers

This group includes managers who plan, organize, direct, control and evaluate departments responsible for corporate governance and regulatory compliance records management, security services, admissions and other administrative services not elsewhere classified. Also included are managers responsible for departments involved in two or more of the following activities: finance, human resources, purchasing computer systems and administrative services.

Profile Summary									Examples of Job Titles
APTITUDES									business manager – non-profit organization chief, administrative services inventory control manager manager, administrative services manager, security manager, support services records administrator regional administrative manager
G	V	N	S	P	Q	K	F	M	
2	2	2	4	4	3	4	4	4	
INTERESTS									
DMs									
DATA PEOPLE THINGS (DPT)									
118									
PHYSICAL ACTIVITIES (PA)									
V	C	H	B	L	S				
2	0	2	1	0	1				
ENVIRONMENTAL CONDITIONS (EC)									
L1									
EDUCATION/TRAINING									
6+, 7+, R									

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of departments providing administrative services
- **Verbal ability** to prepare reports and briefs for management committees evaluating administrative services, and to interview, hire and oversee training for staff

- **Numerical ability** to direct preparation and maintain control of operating budgets
- **Directive interest** in **co-ordinating** information to direct, control and evaluate the operations of departments providing administrative services and the corporate governance and regulatory compliance procedures within establishments; and in advising staff engaged in providing records management, security, finance, purchasing, human resources and other administrative services
- **Methodical interest** in planning and administering budgets for contracts, equipment and supplies
- **Social interest** in **negotiating** with other managers to formulate and standardize new and revised administrative policies and procedures

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A bachelor's degree or college diploma in business administration or a related administrative services field is usually required.
- Several years of experience at a professional level in business administration, finance or administrative services are usually required.
- An Associate of the Institute of the Chartered Secretaries and Administrators (ACIS), Fellow of the Institute of Chartered Secretaries and Administrators (FCIS) or a Professional Administrator (P Adm) designation may be required for some occupations in this group.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Facility Operation and Maintenance Managers (0721)

Financial Managers (0111)

Human Resources Managers (0112)

Purchasing Managers (0113)

0121.1 Insurance Managers

Insurance managers plan, organize, direct, control and evaluate the activities of departments and establishments that provide insurance services. They are generally responsible for business development and must ensure that their group reaches performance levels related to established objectives.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

insurance claims service manager
insurance manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of departments and establishments that provide automobile, fire, life, property and other types of insurance services
- **Verbal ability** to prepare management reports and review sales reports
- **Methodical interest** in ensuring that the organization's activities and provision of services are carried out according to established policies and procedures
- **Numerical ability and clerical perception** to prepare and oversee the preparation of operating budgets
- **Directive interest in co-ordinating** information to direct, control and evaluate the operation of departments and establishments providing insurance services
- **Social interest in negotiating** with other managers, specialists and staff to arrive at decisions

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A university degree or college diploma in business administration, economics or other related field is usually required.
- Several years of experience within the appropriate industry are usually required.
- Licensure appropriate to the sales of insurance services may be required.
- In the insurance industry, a recognized professional designation is usually required.

Workplaces/Employers

Insurance companies

Occupational Options

There is no mobility between the different types of managers in the 0121 group.

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Banking, Credit and Other Investment Managers (0122)

Financial Managers (0111)

Other Business Services Managers (0123)

Sales, Marketing and Advertising Managers (0611)

0121.3 Mortgage Broker Managers

Mortgage broker managers plan, organize, direct, control and evaluate the activities of departments and establishments that provide mortgage services. They are generally responsible for business development and must ensure that their group reaches performance levels related to established objectives.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

mortgage broker manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of departments and establishments that provide mortgage services
- **Verbal ability** to review legal documents and the terms and conditions of mortgage loans and to prepare reports
- **Numerical ability and clerical perception** to prepare and oversee the preparation of operating budgets and financial statements
- **Directive interest in co-ordinating** information to direct, control and evaluate the operation of departments and establishments that find lenders and lending institutions on behalf of clients seeking mortgages
- **Methodical interest** in maintaining records and ensuring that the provision of mortgage services adheres to established policies and procedures
- **Social interest in negotiating** the terms and conditions of mortgages with lenders and representatives of lending institutions

Physical Activities

- Vision**
2 Near vision
- Colour Discrimination**
0 Not relevant
- Hearing**
2 Verbal interaction
- Body Position**
1 Sitting
- Limb Co-ordination**
0 Not relevant
- Strength**
1 Limited

Environmental Conditions

- Location**
L1 Regulated inside climate

Employment Requirements

- Education/Training
6+, 7+, R
- A university degree or college diploma in business administration, economics or other related field is usually required.
 - Several years of experience within the appropriate industry are usually required.
 - Licensure appropriate to the sales of mortgage services may be required.

Workplaces/Employers

Mortgage brokers

Occupational Options

There is no mobility between the different types of managers in the 0121 group.

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

- Banking, Credit and Other Investment Managers* (0122)
- Financial Managers* (0111)
- Other Business Services Managers* (0123)
- Sales, Marketing and Advertising Managers* (0611)

0121.4 Securities Managers

Securities managers plan, organize, direct, control and evaluate the activities of departments and establishments that provide investment services. They are generally responsible for business development and must ensure that their group reaches performance levels related to established objectives.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

- bond sales manager
- brokerage manager – investments
- commodities trading manager
- financial brokerage manager
- investment manager
- securities sales director
- trading floor manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of departments and establishments that provide investment services
- **Verbal ability** to prepare reports and direct staff in seeking out clients and selling company services
- **Numerical ability and clerical perception** to prepare and oversee the preparation of operating budgets and financial statements
- **Directive interest in co-ordinating** information; to direct, control and evaluate the activities of departments and establishments that buy and sell stocks, bonds and other forms of investment on behalf of individual and institutional clients and to manage the investments of clients
- **Methodical interest** in maintaining custody of records and in ensuring that the provision of investment services adheres to established policies and practices
- **Social interest in negotiating** with other managers, securities and investment funds specialists and brokers to arrive at decisions

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A university degree or college diploma in business administration, economics or other related field is usually required.
- Several years of experience within the appropriate industry are usually required.
- Licensure appropriate to the sales of services may be required.

Workplaces/Employers

Investment dealers

Security and commodity exchanges

Stockbrokers

Occupational Options

There is no mobility between the different types of managers in the 0121 group.

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Banking, Credit and Other Investment Managers (0122)

Financial Managers (0111)

Other Business Services Managers (0123)

Sales, Marketing and Advertising Managers (0611)

0122.1 Banking and Other Investment Managers

Banking and other investment managers plan, organize, direct, control and evaluate the activities of financial establishments or operational departments within such establishments. They oversee business development and manage overall performance in accordance with established strategic directions and policies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, 8+

Examples of Job Titles

- bank manager
- commercial banking manager
- corporate banking centre manager
- credit union manager
- manager, banking operations
- manager, corporate services – banking, credit and investment
- manager, credit card centre
- manager, personal services – banking, credit and investment
- operations manager, credit card company
- trust company manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of banks, trust companies, credit unions and similar financial institutions or of operational departments within such institutions, and to evaluate the institutional policies and procedures in order to make recommendations for improvement
- **Verbal ability** to promote the sale of loan, investment and other banking services to attract corporate and individual customers, to interview customers and to respond to inquiries
- **Numerical ability and clerical perception** to oversee the preparation of monthly financial and branch progress reports, and to analyze and review loan and credit applications in accordance with authorized limits
- **Directive interest in co-ordinating** information to direct and control the branch operations of financial institutions or of departments within such institutions that are responsible for administering personal and commercial loans, buying and selling securities, operating investment funds, administering trusts, settling estates and other financial activities; and in approving or rejecting loan and credit applications, and recruiting personnel and identifying their training needs
- **Methodical interest** in ensuring that institutional policies and procedures are followed according to established guidelines, and in monitoring credit investigations and processing loan applications
- **Social interest in negotiating** with other managers, representatives of financial and other institutions and staff to arrive at decisions; and in networking to develop business relations

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, 8+

- A university degree or college diploma in business administration, commerce, economics or a related field is usually required.
- A master's degree in business administration (MBA) or finance (M.Sc.) may be required for the management of large commercial loans.
- Completion of company or other management training programs is usually required.
- Several years of experience within the industry, including supervisory experience, are required.

Workplaces/Employers

Banks

Consumer loan companies

Credit card companies

Credit unions

Mortgage investment companies

Mutual fund investment firms

Trust companies

Occupational Options

Progression to senior management positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Mortgage brokerage managers (in 0121 *Insurance, Real Estate and Financial Brokerage Managers*)

Other Business Services Managers (0123)

Senior Managers – Financial, Communications Carriers and Other Business Services (0013)

0122.2 Credit Managers

Credit managers plan, organize, direct, control and evaluate the activities of credit departments in industrial and commercial establishments. They oversee business development and manage overall performance in accordance with established strategic directions and policies.

Profile Summary										Examples of Job Titles
APTITUDES										collection centre manager credit manager manager, credit card centre mortgage and consumer credit manager regional collection manager regional credit manager
G	V	N	S	P	Q	K	F	M		
1	2	1	4	4	3	4	4	4		
INTERESTS										
DMS										
DATA PEOPLE THINGS (DPT)										
118										
PHYSICAL ACTIVITIES (PA)										
V	C	H	B	L	S					
2	0	2	1	0	1					
ENVIRONMENTAL CONDITIONS (EC)										
L1										
EDUCATION/TRAINING										
6+, 7+, 8+										

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of credit departments within industrial and commercial organizations
- **Verbal ability** to prepare credit and loan reports and make recommendations on loan and credit applications and collateral

- **Numerical ability and clerical perception** to review and evaluate loan and credit applications and collateral, and to establish credit limits
- **Directive interest in co-ordinating** information to direct, control and evaluate the activities of credit departments in industrial and commercial organizations; and in approving and rejecting credit applications, and in recruiting personnel and identifying their training needs
- **Methodical interest** in administering corporate, commercial and personal loan accounts, in ensuring that credit policies and procedures are followed according to established guidelines and applicable legislation, and in ensuring the collection of overdue and delinquent accounts
- **Social interest in negotiating** with other managers and staff to arrive at decisions, and with customers to determine repayment plans and schedules in accordance with authorized limits; and in advising customers on the commercial and personal financial services corresponding to their needs

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, 8+

- A university degree or college diploma in business administration, commerce, economics or a related field is usually required.
- A master's degree in business administration (MBA) or finance (M.Sc.) may be required for the management of large commercial loans.
- Completion of company or other management training programs is usually required.
- Several years of experience within the industry, including supervisory experience, are required.

Workplaces/Employers

Credit departments in establishments such as:

Car dealerships

Commercial or industrial organizations

Department stores

Insurance companies

Utility companies

Similar Occupations Classified Elsewhere

Mortgage brokerage managers (in 0121 *Insurance, Real Estate and Financial Brokerage Managers*)

Other Business Services Managers (0123)

Senior Managers – Financial, Communications Carriers and Other Business Services (0013)

0123 Other Business Services Managers

Managers in this group plan, organize, direct, control and evaluate the operations of establishments that provide services to business, and ensure the quality of those services and client satisfaction. They provide business services such as management consulting, market research, personnel services, payroll services, advertising services and security services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

accounting firm manager
employment agency manager
legal firm manager
manager, management consulting service
manager, market research service
manager, nursing registry
payroll service manager
personnel agency manager
professional services manager – business services
security service manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of establishments that provide services to business, and to develop policies and procedures
- **Verbal ability** to prepare reports and to interview, hire and provide training for staff
- **Numerical ability and clerical perception** to plan, administer and control operational budgets, and to assist staff with administrative and technical problems
- **Directive interest in co-ordinating** information to direct, control and evaluate the operation of establishments that provide management consulting, market research, personnel services, payroll services, advertising services and security services to business; in directing and advising staff in the development and implementation of sales and marketing strategies; and in developing action plans, providing expertise in response to client needs, and supporting and advising project teams
- **Methodical interest** in administering and monitoring budgets for client projects, contracts, equipment and supplies
- **Social interest in negotiating** with other managers, specialists and staff to arrive at decisions; and in representing the company within various economic and social organizations

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, R

- A bachelor's degree or college diploma in a field related to the business service provided is usually required.
- Several years of experience in a field related to the business service provided are usually required.
- Licences, certificates or registration may be required for some business services managers. For example, accounting firm managers usually require accounting certification.
- University studies in business administration may be required.

Similar Occupations Classified Elsewhere

Architecture and Science Managers
(0212)

Banking, Credit and Other Investment Managers (0122)

Computer and Information Systems Managers (0213)

Engineering Managers (0211)

Insurance, Real Estate and Financial Brokerage Managers (0121)

Senior Managers – Financial, Communications and Other Business Services (0013)

Workplaces/Employers

Firms and agencies providing:

Advertising services

Business management services

Management consulting

Market research

Payroll services

Personnel services

Security services

0131

Telecommunication Carriers Managers

Telecommunication carriers managers plan, organize, direct, control and evaluate the operation of telecommunications establishments, departments or facilities.

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **numerical ability** and **spatial perception** to analyze and evaluate telecommunication installations, operations and maintenance services and make recommendations for improvements

▪ **Verbal ability** to consult with senior managers to establish policies concerned with the development, operation and maintenance of telecommunication services

▪ **Directive interest** in **co-ordinating** information to plan, organize, direct, control and evaluate the operations of telecommunication establishments, departments or facilities; to direct and control, through subordinate supervisors and technical staff, telecommunications traffic volume and flow within an assigned area; and to recruit personnel and oversee their training

▪ **Methodical interest** in ensuring compliance with telecommunication regulations and directives of government regulatory agencies; and in ensuring efficient telecommunication systems operations

▪ **Social interest** in **negotiating** with representatives of related and connecting companies to resolve joint telecommunication problems

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+

- A university degree in science, electrical engineering or a related field is usually required.
- Several years of experience in a related technical profession, including supervisory experience, are usually required.

Workplaces/Employers

Wire, wireless, satellite and other telecommunication companies

Occupational Options

Progression to senior management positions in telecommunications is possible with experience.

Similar Occupations Classified Elsewhere

Broadcasting managers (in 0512 *Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts*)

Senior Managers – Financial, Communications Carriers and Other Business Services (0013)

0132 Postal and Courier Services Managers

Postal and courier services managers plan, organize, direct, control and evaluate the activities and operations in postal facilities and establishments that provide courier services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

- courier service manager
- mail processing plant manager
- manager, collection and delivery operations
- manager, mail operations
- messenger service manager
- parcel processing plant manager
- post office manager
- postal station superintendent
- production control manager – postal service

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize postal and courier services, review effectiveness of operations and implement changes
- **Verbal ability** to interview, hire and provide training for staff
- **Numerical ability and clerical perception** to prepare budget estimates and administer the expenditures of postal and courier facilities
- **Directive interest in co-ordinating** information to direct, control and evaluate the activities and operations of divisions within Canada Post, postal facilities and courier service companies
- **Methodical interest** in managing the accurate and expedient movement of mail and parcels through postal and parcel sorting facilities
- **Social interest** in negotiating with supervisors and other staff to co-ordinate their duties

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- A university degree or college diploma is usually required.
- Several years of supervisory experience or operational experience within a postal or courier facility are usually required.

Workplaces/Employers

Canada Post Corporation

Courier companies

Similar Occupations Classified Elsewhere

Postmasters (in 1214 *Supervisors, Mail and Message Distribution Occupations*)

0212 Architecture and Science Managers

Architecture and science managers plan, organize, direct, control and evaluate the activities of architecture, landscape architecture, science and statistical departments, services and firms.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	3	4	4	4

INTERESTS

DIS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

- architectural manager
- chief actuary
- director of architecture
- director of research – forestry
- director of research – manufacturing
- director of research – mining
- director, agricultural chemistry branch
- landscape architecture manager
- manager, life sciences program
- manager, petroleum geology department
- scientific research department manager
- statistical service manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities and operation of architecture and science departments, services and firms
- **Verbal and numerical ability** to explain proposals and prepare and present architectural and scientific research reports and findings
- **Spatial and form perception** to review and inspect technical work of departments and project teams; may participate directly in design and development of technical projects and in theoretical and applied scientific work
- **Directive interest in co-ordinating** information to direct, control and evaluate the activities and operation of architecture, landscape architecture, scientific research and development laboratories, quality control departments, services and firms; and in assigning and co-ordinating the technical work of departments and project teams, and in recruiting personnel and overseeing staff training and development
- **Innovative interest** in developing and implementing policies, standards and procedures for architectural, scientific and technical work performed in departments, laboratories and firms
- **Social interest in negotiating** with other managers, specialists and staff to arrive at decisions; may consult and negotiate with clients to prepare specifications

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
7+, 8+, R
- Architecture managers require a degree in architecture and several years of experience as an architect.
 - Science and other managers in this group require a master's or doctoral degree in a scientific discipline and several years of experience in a related scientific discipline.
 - Landscape architecture managers require a degree in landscape architecture and several years of experience as a landscape architect.
 - Architecture managers require registration as a professional architect.
 - Landscape architecture managers require a licence as a professional landscape architect.

Workplaces/Employers

Architectural firms
Private sector and government establishments
Scientific research companies

Occupational Options

Progression to senior management positions in the respective fields is possible with experience.

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Engineering Managers (0211)

Primary Production Managers (Except Agriculture) (0811)

Science professionals and supervisors of science professionals (in Major Group 21 *Professional Occupations in Natural and Applied Sciences*)

Remarks

Managers of architectural and scientific projects are classified with architects, scientists and supervisors of science professionals in Major Group 21.

0213

Computer and Information Systems Managers

Computer and information systems managers plan, organize, direct, control and evaluate the activities of organizations that analyze, design, develop, implement, operate and administer computer and telecommunications software, networks and information systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	3	4	4	4

INTERESTS

DIS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+

Examples of Job Titles

- computer systems manager
- data centre manager
- data processing director
- EDP (electronic data processing) manager
- information systems manager
- manager, data processing and systems analysis
- manager, management information system (MIS)
- manager, software engineering
- software development manager
- systems development manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of information systems and electronic data processing (EDP) departments and companies
- **Verbal ability** to prepare and present reports and discuss systems requirements with clients
- **Numerical ability** to control budgets and expenditures of departments, companies and projects
- **Spatial and form perception** to review the work of teams of information systems personnel designing, developing, implementing, operating and administering computer and telecommunications software, network and information systems
- **Directive interest in co-ordinating** information to direct, control and evaluate activities of information systems and EDP departments and companies; in assembling and managing teams of information systems personnel; and in recruiting, supervising and overseeing the professional development and training of computer analysts, programmers and other personnel
- **Innovative interest** in developing and implementing policies and procedures for EDP and computer systems operations and development
- **Social interest in negotiating** with clients to determine system requirements, specifications, costs and timelines

Physical Activities

- Vision**
2 Near vision
- Colour Discrimination**
0 Not relevant
- Hearing**
2 Verbal interaction
- Body Position**
1 Sitting
- Limb Co-ordination**
1 Upper limb co-ordination
- Strength**
1 Limited

Environmental Conditions

- Location**
L1 Regulated inside climate

Employment Requirements

- Education/Training
7+, 8+
- A bachelor's or master's degree in computer science, business administration, commerce or engineering is usually required.
 - Several years of experience in systems analysis, data administration, software engineering, network design or computer programming, including supervisory experience, are required.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

- Computer and information systems supervisors (in group 217 *Computer and Information Systems Professionals*)
- Computer Engineers (Except Software Engineers)* (2147)
- Computers Programmers and Interactive Media Developers* (2174)
- Computer services company presidents (in 0013 *Senior Managers – Financial, Communications and Other Business Services*)
- Database Analysts and Data Administrators* (2172)
- Information Systems Analysts and Consultants* (2171)
- LAN managers (in 2281 *Computer and Network Operators and Web Technicians*)
- Software Engineers* (2173)

0311 Managers in Health Care

Health care managers plan, organize, direct, control and evaluate the delivery of health care services, such as diagnosis, treatment, nursing and therapy within institutions that provide health care services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	4	4	3	4	4	4

INTERESTS

DMI

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

- chief of anesthesia
- chief of emergency medicine
- chief of medical staff
- director of clinical medicine
- director of dietetics
- director of laboratory medicine
- director of nursing – medical services
- director of occupational therapy
- director of physiotherapy
- director of surgery
- director, home care services
- director, rehabilitation services
- medical clinic director
- mental health residential care program manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize delivery of health care services within departments and establishments, and to develop evaluation systems to monitor quality of health care
- **Verbal ability** to represent departments and establishments at meetings with government officials, the public, the media and other organizations
- **Numerical ability** to plan and control operational budgets of departments and establishments
- **Directive interest in co-ordinating** information to direct, control and evaluate the delivery of health care services within departments and establishments; and in directing health care supervisors and professionals, and in recruiting health care staff
- **Methodical interest in negotiating** with a board of directors and senior managers to maintain and establish standards of health care; and in monitoring the use of diagnostic services, in-patient beds and facilities to ensure effective use of resources
- **Innovative interest** in developing and implementing plans for new programs, special projects, new material and equipment acquisitions and future staffing levels for the departments and establishments

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, 8+, R

- Administrators of departments, such as surgery, clinical medicine or laboratory medicine, are usually required to have the education and training of a specialist physician.
- Administrators of other departments, such as nursing, dietetics or physiotherapy, are usually required to have the education and training of the medical professionals in that department.
- Several years of experience in the relevant profession, including supervisory experience, are usually required.
- Certification in the relevant profession is required.

Workplaces/Employers

Hospitals

Medical clinics

Nursing homes

Other health care establishments

Occupational Options

There is little or no mobility between departments in different medical specializations.

Progression to senior management positions in health care services is possible with experience.

Similar Occupations Classified Elsewhere

Government Managers – Health and Social Policy Development and Program Administration (0411)

Senior Managers – Health, Education, Social and Community Services and Membership Organizations (0014)

Remarks

Managers in health care specialize in administering the provision of specific health care services such as dietetics, clinical medicine, laboratory medicine, nursing, physiotherapy or surgery.

0312.1 Faculty Administrators

Faculty administrators manage the academic and related activities of faculties of colleges and universities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8+

Examples of Job Titles

community college dean
dean – university or college
dean of adult education
dean, faculty of science
dean, school of nursing
dean, school of technology
manager, business school
student activities dean

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize operational and academic activities of college and university faculties
- **Verbal ability** to advise presidents and rectors of colleges and universities and to recommend curriculum revisions and additions
- **Numerical ability** to plan, administer and control budgets for projects, programs, support services and equipment
- **Directive interest in co-ordinating** information to direct, control and evaluate academic and operational activities of college and university faculties; and in recommending and approving faculty appointments, in approving course scheduling and in managing, through subordinate staff, activities such as research and curriculum development
- **Methodical interest** in controlling budgets for projects, programs, support services and equipment, in recommending curriculum revisions and additions and in determining scheduling of courses
- **Social interest in negotiating** with other administrators, specialists and subordinates to arrive at decisions, and in participating in activities of various faculty and college committees

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
8+
- Faculty administrators require a graduate degree in a field related to the academic faculty and several years of experience as a university professor or college teacher.

Workplaces/Employers

Colleges
Universities

Occupational Options

There is no mobility among the various types of administrators in the 0312 group.

Progression to some senior management positions in education is possible with experience.

Similar Occupations Classified Elsewhere

Administrators of non-vocational training schools, such as driving schools (in 0651 *Other Services Managers*)

College and Other Vocational Instructors (4131)

College rectors (in 0014 *Senior Managers – Health, Education, Social and Community Services and Membership Organizations*)

School Principals and Administrators of Elementary and Secondary Education (0313)

University presidents (in 0014 *Senior Managers – Health, Education, Social and Community Services and Membership Organizations*)

University Professors (4121)

0312.2 Registrars

Registrars manage registration activities and academic record systems of colleges and universities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+

Examples of Job Titles

registrar, community college
university registrar

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize registration activities and academic record systems of colleges and universities
- **Verbal ability** to interpret registration policies for faculty and students, and to advise students on types of courses offered
- **Numerical ability** to review and analyze registration statistics for use in formulating policies
- **Directive interest** in **co-ordinating** information to direct, control and evaluate registration activities and academic record systems of colleges and universities; and in directing activities of staff and others engaged in compiling information on courses, schedules and requirements for admission and graduation
- **Methodical interest** in administering examinations and issuing official transcripts of grades
- **Social interest** in **negotiating** with faculty officials to develop registration policies

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+

- Registrars require an undergraduate degree in business administration or a related field and several years of experience in registration administration.

Workplaces/Employers

Colleges

Universities

Occupational Options

There is no mobility among the various types of administrators in the 0312 group.

Progression to some senior management positions in education is possible with experience.

Similar Occupations Classified Elsewhere

Administrators of non-vocational training schools, such as driving schools (in 0651 *Other Services Managers*)

College and Other Vocational Instructors (4131)

College rectors (in 0014 *Senior Managers – Health, Education, Social and Community Services and Membership Organizations*)

School Principals and Administrators of Elementary and Secondary Education (0313)

University presidents (in 0014 *Senior Managers – Health, Education, Social and Community Services and Membership Organizations*)

University Professors (4121)

0312.3 Administrators of Vocational Training Schools

Administrators of vocational training schools manage the operations of private vocational schools specializing in trades, technology, business and other vocational subjects.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

dean of adult education
dean, school of technology
manager, aviation school
manager, business school
manager, trade school
student activities dean

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of private colleges and institutes specializing in trades, technology and business
- **Numerical ability** to plan, administer and control budgets for projects, programs, support services and equipment
- **Methodical interest** in consulting with government regulatory and licensing agencies to ensure programs conform to provincial standards
- **Verbal ability** to apply specialized knowledge related to operations of vocational training schools; may teach
- **Directive interest** in co-ordinating information to direct, control and evaluate activities of private colleges and institutes; and in administering and controlling budgets; may recruit and hire teachers and other staff
- **Social interest** in negotiating with other administrators, specialists and subordinates to arrive at decisions and to develop curricula for training programs

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Administrators of vocational training schools usually require an undergraduate degree in business administration or expertise and certification in a subject of instruction.

Workplaces/Employers

Private vocational schools

Occupational Options

There is no mobility among the various types of administrators in the 0312 group.

Progression to some senior management positions in education is possible with experience.

Similar Occupations Classified Elsewhere

Administrators of non-vocational training schools, such as driving schools (in 0651 *Other Services Managers*)

College and Other Vocational Instructors (4131)

College rectors (in 0014 *Senior Managers – Health, Education, Social and Community Services and Membership Organizations*)

School Principals and Administrators of Elementary and Secondary Education (0313)

University presidents (in 0014 *Senior Managers – Health, Education, Social and Community Services and Membership Organizations*)

University Professors (4121)

0313.1 School Principals

School principals plan, organize, direct, control and evaluate the activities of teachers and other staff of elementary and secondary schools.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	2	4	4	3	4	4	4

INTERESTS

DMS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

headmaster/mistress, private school
school principal
secondary school principal
vice-principal, school

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to co-ordinate teaching activities by making personnel assignments, determining class sizes and preparing timetables, and to develop programs within limits of authority
- **Verbal ability** to review programs; may teach and recruit and hire teachers and other staff
- **Numerical ability** to prepare and administer institution and program budgets
- **Directive interest in co-ordinating** information to plan, organize, direct, control and evaluate, through department heads and supervisors, the activities of teachers and support staff; and in directing and co-ordinating school maintenance services and the use of school facilities
- **Methodical interest** in organizing and maintaining procedures for keeping records, and in ensuring that programs conform to school board and provincial standards
- **Social interest in negotiating** with teachers, students and parents on educational and behavioural matters; and in establishing and maintaining relationships with other educational institutions and community organizations regarding educational services

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction
- Body Position
1 Sitting
- Limb Co-ordination
0 Not relevant
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
7+, 8+, R
- A bachelor's degree in education is required.
 - A master's degree in education may be required.
 - Several years of experience as a senior teacher or department head are required.
 - A teacher's certificate for the province of employment is required.
 - School principals may require a principal's certificate.

Workplaces/Employers

Private and public schools

Occupational Options

There is little mobility between institutional settings, for example, between elementary and secondary schools.

Similar Occupations Classified Elsewhere

Administrators – Post-Secondary Education and Vocational Training (0312)

Education Policy Researchers, Consultants and Program Officers (4166)

Government Managers – Education Policy Development and Program Administration (0413)

Senior Managers – Health, Education, Social and Community Services and Membership Organizations (0014)

0313.2 Administrators of Elementary and Secondary Education

Administrators of elementary and secondary education plan, organize, direct, control and evaluate the academic affairs of school systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	2	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

- administrator, board of education
- chief superintendent – schools
- director of education, correctional institution
- director of school for the hearing impaired
- district school superintendent
- superintendent of elementary education
- superintendent of secondary schools
- superintendent of special education

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to evaluate curricula, teaching methods and community participation in programs for school districts, and to revise programs as required
- **Numerical ability** to make recommendations concerning annual operating budgets of school districts
- **Directive interest** in **co-ordinating** information to plan, organize, direct, control and evaluate, through school principals, the academic affairs of school districts; and in directing and supervising the recruitment, appointment, training, evaluation and promotion of teachers
- **Methodical interest** in developing and administering programs for the education and training of students
- **Social interest** in **negotiating** with other administrators, specialists and subordinates to develop programs and arrive at decisions

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	0	Not relevant
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
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Employment Requirements

Education/Training
7+, 8+, R

- A bachelor's degree in education is required.
- A master's degree in education may be required.
- Several years of experience as a senior teacher or department head are required.
- Administrators of elementary and secondary education may require a supervisory officer certificate.

Workplaces/Employers

School boards

Similar Occupations Classified Elsewhere

Administrators – Post-Secondary Education and Vocational Training (0312)

Education Policy Researchers, Consultants and Program Officers (4166)

Government Managers – Education Policy Development and Program Administration (0413)

Senior Managers – Health, Education, Social and Community Services and Membership Organizations (0014)

0314

Managers in Social, Community and Correctional Services

Managers in this group plan, organize, direct, control and evaluate the programs and activities of social service and community agencies, correctional institutions, counselling departments, labour organizations, professional associations, political parties and non-governmental organizations.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	1	2	4	4	3	4	4	4
INTERESTS								
DMS								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
8+								

Examples of Job Titles

- area manager, family services
- association director
- children's aid society director
- correctional institution director
- director, community centre
- director, correctional treatment and training
- environmental group director
- labour organization manager
- political organization manager
- prison warden
- social assistance director
- social work director
- volunteer services director

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize delivery of social and community service programs, and to establish administrative procedures to meet objectives set by a board of directors and senior management
- **Verbal ability** to prepare reports and briefs for management committees and working groups, to represent the organization for the purposes of government liaison and media relations, and to hire and provide training for staff

- **Numerical ability** to plan, administer and control budgets for programs, equipment and support services
- **Directive interest in co-ordinating** information to direct, control, and evaluate the delivery of social and community service programs such as income maintenance, children's aid and emergency housing services; and in managing the operations and activities of correctional facilities and detention centers; and in directing and advising staff delivering services and programs to the general public, to organizations and to association members
- **Methodical interest** in administering the programs of non-governmental organizations involved with social issues such as health care, human rights, consumer protection, international development and environmental protection; and in administering programs of membership organizations such as political parties, labour organizations, business and professional associations
- **Social interest in negotiating** with members of management committees and working groups when participating in policy development

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8+

- Managers in social, community and correctional services usually require a master's degree in a social science or administrative discipline *and* several years of experience in a related occupation, such as a community and social service worker, social or health policy researcher, consultant or program officer, probation or parole officer, or social worker.
- Managers of associations and membership organizations require extensive experience in a related occupation, trade or industry.

Workplaces/Employers

Community agencies

Correctional institutions

Counselling departments

Labour organizations

Non-governmental organizations

Political parties

Professional associations

Social service agencies

Occupational Options

Progression to senior management positions in social, community and correctional services is possible with additional training and experience.

Similar Occupations Classified Elsewhere

Government Managers – Health and Social Policy Development and Program Administration (0411)

Senior Managers – Health, Education, Social and Community Services and Membership Organizations (0014)

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, 8+, R

For government managers in health policy development and program administration:

- A bachelor's degree or college diploma in health science, hospital administration or public administration or a bachelor's degree in social science is required.
- A graduate degree in a health, social science or administrative discipline may be required.
- Several years of experience as a health or social policy researcher, consultant or program officer are usually required.
- For some government managers in health policy development and program administration, certification in the relevant health profession is required. For example, city medical officers of health must be physicians.

For government managers in social policy development and program administration:

- A bachelor's degree or a college diploma in a social science discipline, such as sociology or economics, or an administrative discipline, such as public administration, is required.
- A graduate degree in a social science or an administrative discipline may be required.
- Several years of experience as a social policy researcher, consultant or program officer is usually required.

Workplaces/Employers

Government departments and agencies

Occupational Options

Progression to senior management positions in the health and social policy fields is possible with experience.

Similar Occupations Classified Elsewhere

Government Managers – Economic Analysis, Policy Development and Program Administration (0412)

Government Managers – Education Policy Development and Program Administration (0413)

Managers in Health Care (0311)

Managers in Social, Community and Correctional Services (0314)

Other Managers in Public Administration (0414)

Senior Government Managers and Officials (0012)

0412

Government Managers – Economic Analysis, Policy Development and Program Administration

Government managers in this group plan, organize, direct, control and evaluate economic policy, research and programs in government activities such as taxation, international trade, labour markets, transportation and agriculture. They also plan and direct policies and programs to promote industrial and commercial business development in urban and rural areas.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	1	4	4	3	4	4	4
INTERESTS								
DIM								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
7+, 8+								

Examples of Job Titles

chief, economic analysis
chief, forest resource analysis
customs manager
director, business development
director, economic development
director, economic policy analysis
director, energy market analysis
director, excise tax programs
director, farm products marketing
international trade policy manager
manager, grain market analysis
manager, tax policy research
taxation manager
tourism development director

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to organize departmental units and establish procedures to meet objectives set by senior management
 - **Verbal ability** to interview and hire staff, provide advice to senior government managers, and advise economists and other staff who prepare reports
- **Numerical ability** to plan research and administration budgets for projects, support services, equipment and supplies
 - **Directive interest** in **co-ordinating** information to plan, organize, direct, control and evaluate the development of economic policy research projects and economic programs; and in directing the activities of economists, economic development officers and other staff, in organizing and directing committees evaluating departmental and agency projects and programs, and in overseeing training and professional development
- **Innovative interest** in **negotiating** with members of committees and senior management when participating in development of departmental policies; and in advising economists and other staff who conduct economic research
 - **Methodical interest** in advising economists and other staff who administer programs in government activities such as taxation, international trade, labour, transportation and agriculture; and in advising economic development officers and other staff administering programs to promote industrial and commercial business investment in urban and rural areas; and in administering and controlling budgets for projects, support services, equipment and supplies

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting

Limb Co-ordination	
0	Not relevant

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
7+, 8+
- A bachelor's degree in economics, business administration, commerce or public administration is required.
 - A master's degree in economics or a related field may be required.
 - Several years of experience as an economist, economic development officer or socio-economic researcher are required.

Workplaces/Employers

Government departments and agencies

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Economists and Economic Policy Researchers and Analysts (4162)

Financial Managers (0111)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Labour policy analysts (in 4164 Social Policy Researchers, Consultants and Program Officers)

Senior Government Managers and Officials (0012)

0413

Government Managers – Education Policy Development and Program Administration

Government managers in this group plan, organize, direct, control and evaluate the development and administration of elementary, secondary and post-secondary education policies and programs.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	1	2	4	4	3	4	4	4
INTERESTS								
DIM								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
7+, 8+, R								

Examples of Job Titles

- director, education curriculum development
- director, education policy analysis and research
- director, school inspection
- education director
- manager, education program administration

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to organize departmental units and establish procedures to meet objectives set by senior management
- **Verbal ability** to interview, hire and provide training for staff, to provide advice to senior government managers and to advise policy researchers and program officers preparing documents
- **Numerical ability** to plan budgets for projects, programs, support services and equipment
- **Directive interest** in co-ordinating information to organize and direct committees and working groups to plan, manage and evaluate educational projects and programs; and in directing and advising policy researchers and program officers conducting research
- **Innovative interest** in negotiating with members of committees and senior management when participating in the development of educational policy
- **Methodical interest** in administering and controlling budgets, and in advising policy researchers and program officers administering programs for elementary and secondary school systems

Physical Activities

- Vision
 - 2 Near vision
- Colour Discrimination
 - 0 Not relevant
- Hearing
 - 2 Verbal interaction
- Body Position
 - 1 Sitting
- Limb Co-ordination
 - 0 Not relevant
- Strength
 - 1 Limited

Environmental Conditions

- Location
 - L1 Regulated inside climate

Employment Requirements

- Education/Training
7+, 8+, R
- A bachelor's degree in education is required.
 - A master's degree in a particular educational specialization may be required.
 - Several years of combined experience as a school teacher and as a government educational policy researcher, consultant or program officer are usually required.
 - A provincial teaching certificate is usually required.

Workplaces/Employers

Government departments and agencies

Occupational Options

Progression to senior management positions in education is possible with experience.

Similar Occupations Classified Elsewhere

- Administrators – Post-Secondary Education and Vocational Training* (0312)
- Government Managers – Health and Social Policy Development and Program Administration* (0411)
- School Principals and Administrators of Elementary and Secondary Education* (0313)
- Senior Government Managers and Officials* (0012)

0414

Other Managers in Public Administration

Managers in this group plan, organize, direct, control and evaluate the development of policies and programs that govern the daily operation of legislatures and other activities unique to government such as intergovernmental affairs and elections.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4
INTERESTS								
DIM								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
7+								

Examples of Job Titles

- clerk of the committee, Legislative Assembly
- director, elections planning
- director, federal-provincial relations
- director, intergovernmental affairs

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to organize governmental units and agencies, and to establish procedures to meet objectives set by senior management

▪ **Verbal ability** to interview, hire and provide training for staff; to provide advice to senior government managers of legislatures, departments and agencies and to advise staff preparing documents

▪ **Innovative interest** in negotiating with senior managers and committees when participating in the development of policies and programs that concern activities unique to government
- **Numerical ability** to plan research and administration budgets for projects, programs, equipment and supplies

▪ **Methodical interest** in administering and controlling budgets and in advising staff who provide administrative support
- **Directive interest** in co-ordinating information to organize and direct committees and working groups to plan, manage and evaluate projects and programs; and in directing and advising staff conducting research

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7+

- A bachelor's degree in a social science discipline, law or business administration is required.
- Several years of experience in government policy development, research or program administration, or in a professional occupation in social science, law or business administration are usually required.

Workplaces/Employers

Government departments and agencies
Legislative bodies

Occupational Options

Progression to senior management positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Administrative Services Managers (011)

Government Managers – Economic Analysis, Policy Development and Program Administration (0412)

Government Managers – Education Policy Development and Program Administration (0413)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Senior Government Managers and Officials (0012)

0511

Library, Archive, Museum and Art Gallery Managers

This group includes managers who plan, organize, direct, control and evaluate the activities of libraries, archives, museums, art galleries or departments within such institutions.

Profile Summary						Examples of Job Titles		
APTITUDES						archives director		
G	V	N	S	P	Q	K	F	M
2	1	2	4	4	3	4	4	4
INTERESTS						art gallery manager		
DMI						assistant director of archives		
DATA PEOPLE THINGS (DPT)						chief librarian		
118						executive director, museum		
PHYSICAL ACTIVITIES (PA)						library director		
V	C	H	B	L	S	museum administrator		
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
8+								

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of libraries, archives, museums and art galleries or technical departments within such institutions

- **Verbal ability** to recruit and provide training for professional, technical and clerical staff, and to carry out public relations and promotional programs
- **Numerical ability** to prepare operating budgets, funding and grant applications and proposals
- **Directive interest in co-ordinating** information to direct, control and evaluate the activities of libraries, archives, museums, art galleries or departments within such institutions; and in implementing public relations and promotional programs
- **Methodical interest** in administering budgets, policies and programs; may perform duties of a librarian, archivist or curator in smaller institutions
- **Innovative interest in negotiating** with members of boards and committees to develop policies and programs; and in developing public relations and promotional programs

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting

Limb Co-ordination	
0	Not relevant

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
8+

- Library managers require a graduate degree in library and information science *and* several years of experience as a librarian, including supervisory experience.
- Archive managers require a graduate degree in archival science or history *and* several years of experience as an archivist or in historical research, including supervisory experience.
- Museum and art gallery managers usually require a graduate degree related to a particular collection or a training program in arts administration *and* several years of experience as a curator, conservator or artist or experience in other related museum and art gallery work.

Workplaces/Employers

Archives
Libraries
Museums
Non-retail art galleries

Occupational Options

There is mobility between library and archive managers and between museum and art gallery managers.

Similar Occupations Classified Elsewhere

Archivists (5113)
Conservators and Curators (5112)
Librarians (5111)

Remarks

Library, archive, museum and art gallery managers may specialize in a specific type of collection.

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- A university degree or college diploma in communications, broadcasting, journalism or other arts discipline is usually required.
- Several years of experience within the publishing, film production, broadcasting or theatre industry are usually required.

Workplaces/Employers

Film, theatre, record and video production companies

Newspaper, periodical and book publishing firms

Radio stations

Television stations

Similar Occupations Classified Elsewhere

Producers, Directors, Choreographers and Related Occupations (5131)

Publishers (in 0016 *Senior Managers – Goods Production, Utilities, Transportation and Construction*)

Senior Managers – Trade, Broadcasting and Other Services, n.e.c. (0015)

0513

Recreation and Sports Program and Service Directors

Recreation and sports program and service directors plan, organize, direct, control and evaluate the operation of comprehensive recreational and sport programs and services, national and provincial sports-governing agencies and professional athletic teams.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

DMI

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

- director of recreation
- director of sports administration
- professional football team manager
- professional hockey team manager
- professional track and field team manager
- recreation director
- sport association director
- sports federation director
- sports programs director
- YMCA (Young Men's Christian Association) programs director

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operations of recreation and sports programs and services and to organize national and provincial training, coaching, officiating and other programs associated with particular sports
- **Verbal ability** to arrange for sponsorships from public and private organizations and to recruit professional coaches and athletes
- **Numerical ability** to prepare budget estimates
- **Directive interest in co-ordinating** information to direct, control and evaluate the operations of recreation and sports programs and services, and to manage the operation of sports governing agencies or professional athletic teams; and in providing technical and professional advice on recreational and sports matters and in directing fundraising drives
- **Methodical interest in negotiating** business contracts; and in administering national and provincial training, coaching, officiating and other sports-related programs
- **Innovative interest** in developing long range plans and in developing policies and procedures to implement programs

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
6+, 7+, R
- A university degree in recreology, physical education, sports administration or a related field
or
a college diploma in recreation management or sports administration is usually required.
 - Several years of experience in an occupation related to recreation and sports administration, consulting or programming are usually required.
 - Some directors of recreation may be required to have a Municipal Recreation Director's Certificate.
 - Executive directors of sports governing agencies may be required to have coaching certification in a particular sport.

Workplaces/Employers

Community and private recreational organizations
Municipalities
Professional athletic team organizations
Sport governing agencies

Similar Occupations Classified Elsewhere

Coaches (5252)
Recreation, Sports and Fitness Program Supervisors and Consultants (4167)
Sports Officials and Referees (5253)

0611.1 Sales Managers

Sales managers plan, organize, direct, control and evaluate the activities of establishments and departments involved in, commercial and industrial, wholesale and other non-retail establishment sales.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DSI

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

corporate sales manager
regional sales manager
sales and marketing manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of sales departments and establishments
- **Verbal ability** to evaluate sales reports and review market analyses to determine customer needs, potential volume and competitive operations
- **Numerical ability** to prepare budgets, approve budget expenditures and determine price schedules and discount rates
- **Directive interest in co-ordinating** information to direct, control and evaluate the activities of sales departments in commercial, industrial, wholesale and other non-retail establishments
- **Social interest in negotiating** with volume purchasers to influence sales; may negotiate with advertising agencies concerning the preparation of sales advertising
- **Innovative interest** in developing sales campaigns to meet company goals

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- Sales managers require a university degree or college diploma in business administration or in a related field with a specialization in sales and several years of experience as a sales representative or in a related occupation.

Workplaces/Employers

Commercial establishments

Government departments

Industrial establishments

Marketing consulting companies

Public relations consulting companies

Wholesale establishments

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Retail Trade Managers (0621)

Retail Trade Supervisors (6211)

Senior Managers – Trade, Broadcasting and Other Services, n.e.c. (0015)

0611.2 Marketing Managers

Marketing managers plan, organize, direct, control and evaluate the activities of establishments and departments involved in commercial, industrial and wholesale marketing.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DSI

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

marketing manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to establish distribution networks for products and services
- **Verbal and numerical ability** to analyze the findings of market research studies
- **Directive interest** in co-ordinating information to control activities of marketing departments and establishments; and in directing and evaluating marketing strategies
- **Social interest** in negotiating business contracts with organizations seeking marketing services and with market researchers
- **Innovative interest** in initiating market research studies and in assisting with product development

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- Marketing managers require a university degree or college diploma in business administration or in a related field with a specialization in marketing *and* several years of experience as a marketing representative or in a related occupation.

Workplaces/Employers

Commercial establishments
Government departments
Industrial establishments
Marketing consulting companies
Public relations consulting companies
Wholesale establishments

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Retail Trade Managers (0621)

Retail Trade Supervisors (6211)

Senior Managers – Trade, Broadcasting and Other Services, n.e.c. (0015)

0611.3 Advertising Managers

Advertising managers plan, organize, direct, control and evaluate the activities of establishments and departments involved in commercial, industrial and wholesale advertising.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DSI

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

advertising director
advertising manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of firms and departments that develop and implement advertising campaigns
- **Verbal and numerical ability** to evaluate reports concerning the overall effects of advertising programs and to review programs before release
- **Directive interest in co-ordinating** information to direct and evaluate the activities of advertising firms and departments, to approve and implement advertising campaigns and to approve contracts for development of advertising services
- **Social interest in negotiating** with senior management and heads of departments to determine advertising needs; and in conferring with senior management of advertising media such as billboards, radio, television, Internet and magazines
- **Innovative interest** in directing research activities for planning and execution of advertising and sales promotion programs and in co-ordinating promotional programs and campaigns with the production of new products

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
6+, 7+
- Advertising managers require a university degree or college diploma in public relations, communications, marketing, journalism or in a related field
and
several years of experience as an advertising officer, public relations officer, communications officer or in a related occupation.

Workplaces/Employers

- Commercial establishments
Government departments
Industrial establishments
Marketing consulting companies
Public relations consulting companies
Wholesale establishments

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

- Professional Occupations in Public Relations and Communications* (5124)
Retail Trade Managers (0621)
Retail Trade Supervisors (6211)
Senior Managers – Trade, Broadcasting and Other Services, n.e.c. (0015)

0611.4 Public Relations Managers

Public relations managers plan, organize, direct, control and evaluate the activities of establishments and departments involved in public relations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DSI

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

director, communications
director, media relations
director, public relations
fundraising campaign manager
promotions manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of establishments and departments that develop and implement public relations programs and communication strategies
- **Verbal and numerical ability** to review and evaluate research reports on public attitudes, to oversee the preparation of publicity and information programs and to review company advertising and sales promotion campaigns
- **Directive interest in co-ordinating** information to direct and evaluate activities of establishments and departments that develop and implement communication strategies and information programs, publicize activities and events, and maintain media relations on behalf of businesses, governments and other organizations; and in controlling the release and distribution of publicity
- **Social interest in negotiating** with senior management to develop public relations policies; and in conferring with associates in industrial relations concerning communications programs for employees, and in maintaining relations with media representatives on behalf of companies and other organizations
- **Innovative interest** in overseeing development of public relations policies, communication strategies, information programs and public awareness campaigns

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- Public relations managers require a university degree or college diploma in public relations, communications, marketing, journalism or in a related field
and
several years of experience as an advertising officer, public relations officer, communications officer or in a related occupation.

Workplaces/Employers

Commercial establishments
Government departments
Industrial establishments
Marketing consulting companies
Public relations consulting companies
Wholesale establishments

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Retail Trade Managers (0621)

Retail Trade Supervisors (6211)

Senior Managers – Trade, Broadcasting and Other Services, n.e.c. (0015)

0611.5 E-commerce Managers

E-commerce managers plan, direct, control and evaluate the activities of establishments and departments involved in e-business sales.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DSI

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

e-commerce manager
internet communications manager
web communications manager
web marketing manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the design, development and maintenance of Internet and intranet sites
- **Verbal and numerical ability** to review and evaluate Internet and intranet sites and market research to determine customers' needs; and to analyze activity reports of Web sites
- **Directive interest in co-ordinating** information to direct, control and evaluate the design, development and maintenance of Internet and intranet sites and to manage an organization's Internet presence including public relations, communications and commercial activities
- **Social interest in negotiating** with senior management to determine Web sites needs and budgetary requirements
- **Innovative interest** in overseeing development of Internet and intranet sites, and in overseeing the development of Web sites

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- E-commerce managers usually require a university degree or college diploma in a field related to the content of the Web site
and
experience in Web site design, interactive media development, data administration or information systems analysis or experience related to the content of the Web site.

Workplaces/Employers

Commercial establishments

Government departments

Industrial establishments

Marketing consulting companies

Public relations consulting companies

Wholesale establishments

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Retail Trade Managers (0621)

Retail Trade Supervisors (6211)

Senior Managers – Trade, Broadcasting and Other Services, n.e.c. (0015)

0621 Retail Trade Managers

Retail trade managers plan, organize, direct, control and evaluate the operations of establishments that sell merchandise or services on a retail basis.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

DMi

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3+, 6+, 7+

Examples of Job Titles

- antique dealer
- assistant manager – retail
- bookstore manager
- car dealership manager
- clothing store manager
- department store manager
- pleasure boat dealer
- service station manager
- sporting goods store manager
- store manager – retail
- supermarket manager
- travel agency manager
- variety store manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of establishments and departments engaged in retail sales, and to determine merchandise and services to be sold
- **Verbal and numerical ability** to study market research and trends to determine consumer demand, potential sales volumes and effect of competitors' operations on sales, and to plan budgets
- **Directive interest** in **co-ordinating** information to direct and evaluate the operation of establishments and departments engaged in retail sales, authorize budget expenditures, determine staffing requirements, hire or oversee the hiring of staff and to manage staff and assign duties
- **Methodical interest** in locating, selecting and procuring merchandise for resale and in implementing pricing and credit policies
- **Innovative interest** in **negotiating** with members of working groups to develop and implement marketing strategies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3+, 6+, 7+

- Completion of secondary school is required.
- A university degree or college diploma in business administration or other field related to the product or service being sold may be required.
- Several years of related retail sales experience at increasing levels of responsibility are usually required.

Workplaces/Employers

Retail sales establishments

Self-employed owners/operators

Occupational Options

There is some mobility between managers in this group, depending on the product or service.

Similar Occupations Classified Elsewhere

Insurance, Real Estate and Financial Brokerage Managers (0121)

Restaurant and Food Service Managers (0631)

Retail Trade Supervisors (6211)

Sales, Marketing and Advertising Managers (0611)

0631 Restaurant and Food Service Managers

Restaurant and food service managers plan, organize, direct, control and evaluate the operation of restaurants, bars, cafeterias and other food and beverage services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

DMS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

assistant manager, restaurant
banquet manager
bar manager
cafeteria manager
catering service manager
dining room manager
food services manager
hotel food and beverage service manager
restaurant manager
restaurateur

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of restaurants, bars, cafeterias and other food and beverage service establishments and to determine types of services to be offered

- **Verbal ability** to resolve customer complaints and recruit staff
- **Numerical ability** to monitor revenues and modify prices
- **Directive interest** in **co-ordinating** information to direct, control and evaluate the operation of food and beverage service establishments, to implement and modify operational procedures, to assign staff duties and to oversee staff training

- **Methodical interest** in setting work schedules, monitoring staff performance, controlling inventory and ensuring that health and safety regulations are followed
- **Social interest** in **negotiating** arrangements with suppliers for food and other materials, and with clients for catering and use of facilities for banquets and receptions

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+, 6+

- Completion of a college or other program related to hospitality or food and beverage management is usually required.
- Several years of experience in the food service sector, including supervisory experience, are required.

Workplaces/Employers

Food and beverage service establishments
Self-employed owners/operators

Occupational Options

Progression to senior management in food service is possible with experience.

Similar Occupations Classified Elsewhere

Dietitians and Nutritionists (3132)

Executive chefs (in 6241 *Chefs*)

Food Service Supervisors (6212)

Senior managers in food service (in 0015 *Senior Managers – Trade, Broadcasting and Other Services, n.e.c.*)

0632 Accommodation Service Managers

Accommodation service managers plan, organize, direct, control and evaluate the operation of accommodation establishments or of departments within such establishments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

DMS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 6+, 7+

Examples of Job Titles

assistant manager, hotel
bed and breakfast operator
front desk manager
guest-house operator
hotel director
hotel manager
motel manager
reservations manager
seasonal resort manager
ski resort manager
tourist home operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of accommodation service establishments or departments within such establishments and to develop policies and procedures
- **Verbal ability** to resolve customer complaints, to participate in the development of pricing and promotional strategies and to recruit staff
- **Numerical ability** to prepare budgets
- **Directive interest in co-ordinating** information to manage the operation of accommodation establishments or departments within such establishments, to implement policies and procedures, to supervise staff and to oversee staff training
- **Methodical interest** in setting work schedules and in monitoring revenues and expenses
- **Social interest in negotiating** with suppliers for the provision of materials and supplies, and with clients for the use of facilities for conventions, banquets, receptions and other functions

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant

- Hearing
- 2 Verbal interaction

- Body Position
- 1 Sitting

- Limb Co-ordination
- 0 Not relevant

- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 4+, 6+, 7+
- A university degree or college diploma in hotel management or other related discipline is usually required for managers employed by hotel chains or large accommodation establishments.
 - Several years of experience within the accommodation industry are usually required and may substitute for formal educational requirements.

Workplaces/Employers

- Hotels
- Motels
- Other accommodation establishments
- Resorts
- Self-employed owners/operators
- Student residences

Similar Occupations Classified Elsewhere

- Executive Housekeepers* (6213)
- Facility Operation and Maintenance Managers* (0721)
- Restaurant and Food Service Managers* (0631)
- Retail Trade Managers* (0621)
- Sales, Marketing and Advertising Managers* (0611)

0641

Commissioned Police Officers

Commissioned police officers plan, organize, direct, control and evaluate police force administration and police activities such as maintaining law and order and detecting and preventing crime.

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of police forces and divisions of police services and to assess performance of subordinates

- **Verbal ability** to prepare reports and provide briefings to superiors
- **Directive interest in co-ordinating** information to direct, control and evaluate activities of police forces and policing divisions, to oversee police investigations and to authorize promotions, transfers and disciplinary actions
- **Methodical interest** in implementing policing and procedures and in ensuring that procedures are conducted according to laws and regulations
- **Social interest in negotiating** with members of working groups to develop police service policies and procedures

Physical Activities

- Vision**
 - 2 Near vision
- Colour Discrimination**
 - 0 Not relevant
- Hearing**
 - 2 Verbal interaction

- Body Position**
 - 1 Sitting

- Limb Co-ordination**
 - 0 Not relevant

- Strength**
 - 1 Limited

Environmental Conditions

- Location**
 - L1 Regulated inside climate

Employment Requirements

- Education/Training
 - 5+, 7+
- Completion of secondary school is required.
 - A university degree in the social sciences or in business administration may be required.
 - Several years of experience as a police officer are required.

Workplaces/Employers

- Federal governments
- Municipal governments
- Provincial governments

Similar Occupations Classified Elsewhere

- By-law Enforcement and Other Regulatory Officers, n.e.c. (6463)*
- Police Officers (Except Commissioned) (6261)*
- Sheriffs and Bailiffs (6461)*

Remarks

Commissioned officers in the Ports Canada Police and in the railway police are also included in this group.

0642 Fire Chiefs and Senior Firefighting Officers

Fire chiefs and senior firefighting officers plan, organize, direct, control and evaluate firefighting operations and fire prevention activities in fire departments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	4	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+

Examples of Job Titles

deputy fire chief

district fire chief

fire chief

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operation of firefighting departments, to plan, direct and co-ordinate firefighting strategies and evaluate policies and procedures
- **Verbal ability** to represent fire departments in communications with government, the media and the public
- **Directive interest in co-ordinating** information to control the operation of fire departments, to develop and oversee the implementation of fire prevention campaigns and to direct the training of personnel in firefighting methods
- **Methodical interest** in implementing policies and procedures for the operation of municipal fire departments, district fire regions and industrial firefighting services
- **Social interest in negotiating** with members of working groups to develop policies and procedures

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+

- Completion of secondary school is required.
- Completion of a provincial or municipal firefighters training course is required.
- A minimum of ten years of experience as a firefighter is usually required before becoming eligible for a senior officer position.

Workplaces/Employers

Federal government
Industrial establishments with firefighting services
Municipal governments

Similar Occupations Classified Elsewhere

Firefighters (6262)

0643

Commissioned Officers, Armed Forces

Commissioned officers in the armed forces plan, organize, command and evaluate the activities of personnel in occupations unique to the armed forces such as artillery and infantry units, military intelligence units and air weapons control units. The ranks of commissioned officers range from lieutenant to general.

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of military combat units and to develop military procedures based on detailed knowledge of units' capabilities and performance
- **Verbal ability** to prepare reports and provide briefings for superiors

- **Spatial perception** to co-ordinate and direct the activities of military combat units and review performance
- **Directive interest in co-ordinating** information to command activities of military combat units such as armoured, artillery and infantry battalions; in developing policies and directing training; and in evaluating unit performance; may command and lead units as part of United Nations' peacekeeping role in foreign countries
- **Methodical interest** in implementing military procedures and policies and in ensuring activities of units are conducted according to military practices
- **Social interest in supervising** subordinates in training; and in assuming responsibility for welfare, morale and discipline of units

Physical Activities

Vision
1-4*

Colour Discrimination
0-1*

Hearing
1-3*

Body Position
1-4*

Limb Co-ordination
0-2*

Strength
1-4*

Environmental Conditions

Location
L1-L4*

Hazards
H1-H8*

Discomforts
D1-D5*

Employment Requirements

Education/Training
5+, 7+

- A university degree is usually required.
- Completion of military training is required.
- Experience as a non-commissioned member of the armed forces and demonstrated leadership ability may substitute for a university degree.

Workplaces/Employers

Armed forces

Occupational Options

Senior ranks, such as colonel, require several years of experience.

Similar Occupations Classified Elsewhere

Occupations Unique to the Armed Forces (6464)

Commissioned officers whose occupations have civilian counterparts are classified with those occupations. For example:

Dental officer – military (in 3113 *Dentists*)

Legal officer – military (in 4112 *Lawyers and Quebec Notaries*)

Military engineering officer – civil (in 2131 *Civil Engineers*)

Pilot – military (in 2271 *Air Pilots, Flight Engineers and Flying Instructors*)

Remarks

*Physical Activities and Environmental Conditions

- For occupations in this group, all Physical Activities and Environmental Conditions factors and levels may apply.

0651 Other Services Managers

This group includes managers of establishments that provide services not elsewhere classified such as dry cleaning, hairdressing and residential cleaning. Managers of schools that provide non-vocational instruction in driving, languages, music, dance, art, cooking and fashion are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3+, 5+, 6+

Examples of Job Titles

barber shop manager
car wash manager
cooking school manager
driving school manager
dry cleaning service manager
hairdressing salon manager
manager, residential cleaning service
manager, septic tank service
manager, window washing service
pest control service manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of establishments providing services such as dry cleaning, hairdressing and residential cleaning, and schools providing non-vocational instruction in activities and subjects such as driving, languages, music, dance, art, cooking and fashion
- **Verbal ability** to respond to inquiries and complaints, resolve problems and hire and train staff
- **Numerical ability** to plan operational budgets
- **Directive interest** in **supervising** staff; in establishing policies and procedures for staff; and in directing, controlling and evaluating the operations of the establishment
- **Methodical interest** in **co-ordinating** information to plan and control budgets and inventories; and in implementing policies and procedures for staff
- **Social interest** in managing contracts for advertising and marketing strategies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3+, 5+, 6+

- Completion of secondary school is usually required.
- A college diploma or vocational certificate in the subject of instruction may be required.
- One to three years of experience in the service being offered are usually required.

Workplaces/Employers

Dry cleaning services

Hairdressing services

Residential cleaning services

Schools providing non-vocational instruction

Various service establishments

Similar Occupations Classified Elsewhere

Accommodation Service Managers
(0632)

Cleaning Supervisors (6215)

Executive Housekeepers (6213)

Other Business Services Managers
(0123)

Retail Trade Managers (0621)

Retail Trade Supervisors (6211)

0711 Construction Managers

Construction managers plan, organize, direct, control and evaluate the activities of construction companies, or construction departments within companies, under the direction of general managers and other senior managers.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4
INTERESTS								
DMs								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
4+, 6+, 7+, 8+, R								

Examples of Job Titles

- commercial construction manager
- construction manager
- construction superintendent
- general contractor
- housing construction manager
- industrial construction manager
- pipeline construction manager
- project manager, construction
- residential construction manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize construction projects from start to finish according to schedules, specifications and budgets
- **Verbal ability** to represent companies on matters such as business services and union contract negotiations, to prepare progress reports, to issue progress schedules to clients and to hire subcontractors and staff
- **Numerical ability** to prepare and submit construction project budget estimates
- **Directive interest in co-ordinating** information to direct, control and evaluate construction projects from start to finish according to schedules, specifications and budgets; and in directing purchases of building materials and land acquisitions and in supervising the activities of subcontractors and staff
- **Methodical interest** in preparing contracts, in planning and preparing construction schedules and milestones, in monitoring progress against established schedules and in developing and implementing quality control programs
- **Social interest in negotiating** revisions, changes and additions to contractual agreements with architects, consultants, clients, suppliers and subcontractors

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+, 6+, 7+, 8+, R

- A university degree in civil engineering or a college diploma in construction technology is usually required.
- A master's degree in project management may be required.
- Several years of experience in the construction industry, including experience as a construction supervisor or field superintendent, are usually required.
- Extensive experience in the construction industry may substitute for post-secondary education requirements.
- Professional engineering status or construction trade certification may be required by some employers.

Workplaces/Employers

Construction departments of companies outside the construction industry

Residential, commercial and industrial construction companies

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Residential Home Builders and Renovators (0712)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

0712 Residential Home Builders and Renovators

Residential home builders own, operate and manage companies engaged in the construction of new residential homes. Residential home renovators own, operate and manage companies that renovate existing residential homes.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
3	3	3	3	4	4	4	4	4
INTERESTS								
DOM								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	3	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1, L3								
EDUCATION/TRAINING								
1+								

Examples of Job Titles

contractor, home renovation
contractor, residential homes
home builder
home renovator
renovation contractor
residential home builder

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize activities of residential home building and renovating companies
- **Verbal ability** to consult with customers, architects and engineers regarding plans and specifications and to develop marketing and advertising strategies to promote company products and services
- **Numerical ability** to prepare bids for home construction and renovation projects
- **Spatial perception** to apply specialized knowledge of home construction and renovation methods, procedures and activities
- **Directive interest** in co-ordinating information to direct, control and evaluate activities of residential home building and renovating companies; and in co-ordinating the activities of subcontractors and in implementing marketing and advertising strategies
- **Objective interest** in selecting and employing trade subcontractors to do specialized work such as plumbing, heating and electrical work; may perform carpentry and other trade work during home construction and renovation activities
- **Methodical interest** in negotiating with customers and with architects, engineers, subcontractors and suppliers to plan and prepare work schedules; in inspecting work performed by subcontractors to ensure quality and conformity with plans and specifications; and in preparing and maintaining a directory of suppliers and trade subcontractors

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
1+

- Extensive experience in the home construction industry, including experience as a general supervisor, is usually required for self-employment as a home builder or a home renovator.

Workplaces/Employers

Self-employed owners/operators

Similar Occupations Classified Elsewhere

Carpentry, electrical and other construction trade contractors (in 721 *Contractors and Supervisors, Trades and Related Workers*)

Construction Managers (0711)

0713.1 Transportation Managers, Operations

Transportation managers of operations plan, organize, direct, control and evaluate the operations of transportation companies such as railways, airlines, bus lines, municipal transit systems, shipping lines and trucking companies, under the direction of a general manager or other senior manager.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	3	4	3	4	4	4
INTERESTS								
DMs								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
4+, 7+, R								

Examples of Job Titles

- bus company manager
- flight operations manager
- marine superintendent
- superintendent, rail operations
- traffic manager
- transport department manager
- transportation manager
- urban transit system manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operations of transportation companies and to set operations policies and standards including those for safety procedures
- **Verbal ability** to prepare reports for senior management
- **Numerical ability** to control company or departmental budgets, including acquisitions
- **Directive interest in co-ordinating** information to direct, control and evaluate the operations of transportation companies, and to determine safety procedures for the handling of dangerous goods; and in overseeing dispatch of vehicles, vessels or aircraft and in recruiting personnel and overseeing their training
- **Methodical interest** in monitoring company and departmental performance, in planning changes to schedules and policies and in ensuring that company procedures comply with transport regulations
- **Social interest in negotiating** with personnel and senior management to change schedules and policies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+, 7+, R

- A bachelor's degree in business administration or engineering is usually required.
- Several years of experience in transportation operations are usually required, including supervisory experience.
- Extensive experience as a supervisor and operator in a particular transport mode, such as a pilot, train engineer, vessel master or truck driver, may substitute for formal education.
- Certification as an operator of a particular mode of transportation, such as commercial pilot, vessel master or truck driver, is usually required.

Workplaces/Employers

Airlines

Bus lines

Municipal transit systems

Railways

Shipping lines

Trucking companies

Occupational Options

There is little or no mobility between transportation managers, operations and transportation managers, freight traffic.

There is little or no mobility between transportation managers of land, sea and air transportation operations.

Similar Occupations Classified Elsewhere

Airport managers, harbour masters and other managers of transportation facilities (in 0721 *Facility Operation and Maintenance Managers*)

Senior transportation managers (in 0016 *Senior Managers – Goods Production, Utilities, Transportation and Construction*)

0713.2 Transportation Managers, Freight Traffic

Transportation managers of freight traffic plan, organize, direct, control and evaluate companies or departments responsible for the transportation and movement of goods under the direction of a general manager or other senior manager.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 6+, 7+

Examples of Job Titles

bus company manager – freight
freight forwarding manager
freight traffic manager
marine superintendent
railway freight manager
transport department manager
transportation manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of companies and departments responsible for co-ordinating, arranging and monitoring the transportation and movement of goods, and to develop plans and procedures for handling, transporting and storing of goods
- **Verbal and numerical ability** to arrange for shipping documentation and to control company or departmental budgets
- **Directive interest** in co-ordinating information to direct, control and evaluate companies or departments responsible for transportation and movement of goods, to set performance goals and to oversee the setting of service rates; and in recruiting personnel and overseeing their training
- **Methodical interest** in overseeing the scheduling and dispatching of goods and the tracking and tracing of goods in transit, and in monitoring revenue
- **Social interest** in negotiating with carriers, warehouse operators and insurance company representatives for services and preferential rates

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+, 6+, 7+

- Completion of secondary school is required.
- A college diploma or university degree in business or transportation administration may be required.
- Several years of clerical, operational or administrative experience related to freight traffic are required.

Workplaces/Employers

Freight-forwarding companies

Shipping companies

Transportation companies

Transportation departments of companies in the retail, manufacturing and utilities sectors

Occupational Options

There is little or no mobility between transportation managers, operations and transportation managers, freight traffic.

There is little or no mobility between transportation managers of land, sea and air transportation operations.

Similar Occupations Classified Elsewhere

Airport managers, harbour masters and other managers of transportation facilities (in 0721 *Facility Operation and Maintenance Managers*)

Senior transportation managers (in 0016 *Senior Managers – Goods Production, Utilities, Transportation and Construction*)

0721.1 Facility Operation Managers

Facility operation managers plan, organize, direct, control and evaluate the operations of commercial, transportation and recreational facilities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

DMs

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+

Examples of Job Titles

- airport manager
- arena manager
- facility operations manager
- harbour master
- recreational facility manager
- shopping mall manager
- warehouse manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the operations of commercial, transportation and recreational facilities
- **Verbal and numerical ability** to prepare and oversee the preparation of reports and statistics and to plan budgets
- **Directive interest** in **co-ordinating** information to direct, control and evaluate the operation of commercial, transportation and recreational facilities, to plan and direct administrative services such as signage, cleaning, maintenance, parking, safety inspections, security and snow removal and to manage operational and maintenance budgets; and in recruiting personnel and overseeing their training
- **Methodical interest** in planning and organizing administrative services and in overseeing the leasing of space and the maintenance and repair of machinery, equipment and electrical and mechanical systems
- **Social interest** in **negotiating** with working groups to develop marketing strategies

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction
- Body Position
1 Sitting
- Limb Co-ordination
0 Not relevant
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
5+, 6+, 7+
- Completion of a college or university program in business administration or in a discipline related to facility operation and maintenance or an equivalent combination of technical training and experience in administration or maintenance is required.
 - Several years of supervisory experience in facility operations are usually required.

Workplaces/Employers

- Airports
- Canals
- Convention centres
- Harbours
- Office complexes
- Recreation facilities
- Shopping centres
- Warehouses

Similar Occupations Classified Elsewhere

- Administrative Services Managers (011)*
- Building superintendents (in 6663 *Janitors, Caretakers and Building Superintendents*)
- Manager, grain elevator (in 6234 *Grain Elevator Operators*)
- Production operations managers (in 0911 *Manufacturing Managers*)

0721.2 Maintenance Managers

Maintenance managers plan, organize, direct, control and evaluate maintenance departments within commercial, industrial, institutional, recreational and other facilities.

Profile Summary										Examples of Job Titles
APTITUDES										campus maintenance manager chief, maintenance support services head, facilities maintenance maintenance manager mechanical services superintendent plant maintenance superintendent superintendent, maintenance and service
G	V	N	S	P	Q	K	F	M		
2	3	3	4	4	3	4	4	4		
INTERESTS										
DMs										
DATA PEOPLE THINGS (DPT)										
118										
PHYSICAL ACTIVITIES (PA)										
V	C	H	B	L	S					
2	0	2	1	0	1					
ENVIRONMENTAL CONDITIONS (EC)										
L1										
EDUCATION/TRAINING										
5+, 6+, 7+										

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of maintenance departments and to develop schedules and procedures for safety inspections and preventive maintenance programs
- **Verbal and numerical ability** to implement schedules and plan maintenance budgets
- **Directive interest in co-ordinating** information to direct, control and evaluate the activities of maintenance departments; to direct the maintenance and repair of machinery, equipment and electrical and mechanical systems and to co-ordinate cleaning, snow removal and landscaping operations; and in recruiting personnel and overseeing their training
- **Methodical interest** in implementing procedures for safety inspections and preventive maintenance programs and in managing maintenance budgets
- **Social interest in negotiating** with suppliers; and in administering contracts for supplies and services

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 6+, 7+

- Completion of a college or university program in electrical or mechanical engineering or in another discipline related to building maintenance
or
an equivalent combination of technical training and experience in building maintenance is required.
- Several years of supervisory experience in facility maintenance are usually required.

Workplaces/Employers

Airports

Educational institutions

Grain terminals

Harbour operations

Health care institutions

Maintenance and mechanical engineering departments of manufacturing and other industrial establishments

Office buildings

Shopping centres

Sports facilities

Universities

Warehouses

Similar Occupations Classified Elsewhere

Administrative Services Managers (011)

Building superintendents (in 6663
Janitors, Caretakers and Building Superintendents)

Manager, grain elevator (in 6234 *Grain Elevator Operators*)

Production operations managers (in 0911 *Manufacturing Managers*)

0811 Primary Production Managers (Except Agriculture)

Primary production managers plan, organize, direct, control and evaluate the operation of establishments in forestry and logging, mining and quarrying, oil and gas drilling, production and servicing, and commercial fishing.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

DIM

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 7+

Examples of Job Titles

director of mining
manager, drilling operations
manager, fishing operations
manager, forestry operations
manager, gas field operations
manager, oil well servicing
mine manager
quarry manager
shore captain – fishing

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and analyze activities in forestry, logging, mining, quarrying and oil and gas operations or in services to logging, mining, oil and gas industries, and in commercial fishing
- **Verbal and numerical ability** to prepare production reports for review by senior management
- **Directive interest in co-ordinating** information to oversee operations and recommend operational changes to senior management to ensure that production quotas and procedures are met; and in hiring personnel and overseeing staff training; may direct other activities such as construction of access roads and temporary living quarters
- **Innovative interest** in evaluating production sites to determine efficiency and adequacy of personnel, equipment and technologies and in making changes to work schedules and equipment
- **Methodical interest in negotiating** with other managers to set production quotas, to plan extraction sites and to develop policies for the removal of raw materials; and in ensuring adherence to safety regulations

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
4+, 7+

- Forestry managers usually require a bachelor's degree in forestry science or forest engineering.
- Mining and quarrying managers usually require a bachelor's degree in mining engineering or earth sciences.
- Oil and gas managers usually require a bachelor's degree in geology, earth sciences, or petroleum engineering.
- Several years of experience in a supervisory occupation in the particular industry are usually required and may substitute for formal education requirements.

Workplaces/Employers

Commercial fishing companies
Forestry and logging companies
Mining and quarrying companies
Oil and gas drilling companies
Production and servicing operations

Occupational Options

Progression to senior management positions in the respective industries is possible with experience.

Similar Occupations Classified Elsewhere

Directors of research in primary industry
(in 0212 *Architecture and Science Managers*)

Farmers and Farm Managers (8251)

Fishing Masters and Officers (8261)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

Supervisors, Logging and Forestry (8211)

Supervisors, Mining and Quarrying (8221)

Supervisors, Oil and Gas Drilling and Service (8222)

0911 Manufacturing Managers

Manufacturing managers plan, organize, direct, control and evaluate the operations of manufacturing establishments or production departments within manufacturing establishments under the direction of general managers or other senior managers.

Profile Summary										Examples of Job Titles
APTITUDES										
G	V	N	S	P	Q	K	F	M		
2	2	2	3	3	3	4	4	4		
INTERESTS										
DIM										
DATA PEOPLE THINGS (DPT)										
118										
PHYSICAL ACTIVITIES (PA)										
V	C	H	B	L	S					
2	0	2	1	0	1					
ENVIRONMENTAL CONDITIONS (EC)										
L1										
EDUCATION/TRAINING										
6+, 7+										

automobile production manager
clothing factory manager
dairy plant manager
distillery manager
factory superintendent
foundry manager
manufacturing manager
operations manager, manufacturing
plant manager, manufacturing
printing plant manager
production manager – manufacturing
textile mill manager
tire plant manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of manufacturing establishments or operations and production departments of manufacturing establishments, and to plan and implement changes to machinery and equipment, production systems and methods of work
- **Verbal ability** to develop production reporting procedures and to train employees in the use of new equipment and production techniques
- **Numerical ability** to plan and manage departmental budgets
- **Directive interest** in co-ordinating information to direct, control and evaluate the operations of manufacturing establishments or production departments of manufacturing establishments, to direct quality control inspection systems and to recomment the replacement of machines; and in overseeing employee training
- **Innovative interest** in negotiating with senior managers to develop and implement plans to efficiently use materials, labour and equipment to meet production targets
- **Methodical interest** in developing production schedules and equipment maintenance schedules and in maintaining inventories of raw materials and finished products

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- Completion of a college or university program in engineering or business administration is usually required.
- Five to ten years of supervisory experience in manufacturing are required.

Workplaces/Employers

Manufacturing companies

Occupational Options

Progression to senior management positions is possible with experience.

Similar Occupations Classified Elsewhere

Facility Operation and Maintenance Managers (0721)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

Transportation Managers (0713)

Utilities Managers (0912)

0912.1 Water Supply Managers

Water supply managers plan, organize, direct, control and evaluate the operations and services of water purification and distribution companies.

Profile Summary										Examples of Job Titles									
APTITUDES										director, water supply water filtration plant manager									
G	V	N	S	P	Q	K	F	M											
2	2	2	3	3	3	4	4	4											
INTERESTS																			
DIM																			
DATA PEOPLE THINGS (DPT)																			
118																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	0	2	1	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
6+, 7+																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of water filtration, purification and pumping operations of water supply and distribution companies
- **Verbal and numerical ability** to prepare reports on water supply and quality and to prepare budget recommendations
- **Directive interest in co-ordinating** information to direct, control and evaluate water filtration, purification processes and pumping operations, and to develop and implement supervisory policies that provide for continuous service to the public and safety of workers
- **Innovative interest in negotiating** with associates to solve interrelated organizational and technical problems, and with staff to resolve scheduling and work problems; and in evaluating new industrial developments
- **Methodical interest** in scheduling and overseeing maintenance of plant equipment, and in maintaining records

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- A bachelor's degree or college diploma in an appropriate discipline, such as water resource technology, is required.
- Several years of experience as a supervisor in a related utilities operations department are required.

Workplaces/Employers

Private and public sector utilities

Occupational Options

Progression to senior management positions in the utility industry is possible with experience.

Similar Occupations Classified Elsewhere

Facility Operation and Maintenance Managers (0721)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

0912.2 Electrical Power Distribution Managers

Electrical power distribution managers plan, organize, direct, control and evaluate the operations of electric power distribution services and utility companies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

DIM

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

- director, distribution systems – utilities
- director, electrical power transmission operations
- electric power plant manager
- manager, electric generating plant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of distribution operations providing electricity to residential, commercial and industrial consumers; may plan distribution operations of municipal electric power establishments
- **Verbal and numerical ability** to prepare reports and budget recommendations
- **Directive interest in co-ordinating** information to direct, control and evaluate operations of electric power distribution systems including generating stations, transmission stations and distribution networks, and to establish supervisory policies; may direct distribution activities of municipal electric power establishments
- **Innovative interest in negotiating** with associates in solving interrelated organizational and technical problems; and in evaluating new industrial developments
- **Methodical interest** in overseeing maintenance of equipment and structures, and in maintaining records

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7+, R

- A bachelor's degree in electrical engineering is required.
- Several years of experience as a supervisor in a related utilities operations department are required.
- Professional engineer certification is usually required for managers of utility operations involved in the transmission and distribution of electrical power.

Workplaces/Employers

Private and public sector utilities

Occupational Options

Progression to senior management positions in the utility industry is possible with experience.

Similar Occupations Classified Elsewhere

Facility Operation and Maintenance Managers (0721)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

0912.3 Natural Gas Supply Managers

Natural gas supply managers plan, organize, direct, control and evaluate the operations of natural gas distribution services and utility companies.

Profile Summary										Examples of Job Titles									
APTITUDES										director, distribution systems – utilities manager, gas supply operations									
G	V	N	S	P	Q	K	F	M											
2	2	2	3	3	3	4	4	4											
INTERESTS																			
DIM																			
DATA PEOPLE THINGS (DPT)																			
118																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	0	2	1	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
7+, R																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of services and utilities delivering gas to residential, commercial and industrial consumers
- **Verbal and numerical ability** to prepare reports and budget recommendations
- **Directive interest in co-ordinating** information to direct, control and evaluate the operations of service and utility companies delivering gas to consumers and to establish supervisory policies
- **Innovative interest in negotiating** with associates in solving interrelated organizational and technical problems; and in evaluating new industrial developments
- **Methodical interest** in monitoring supply inventories and in controlling the recording of injections and withdrawals

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, R

- A bachelor's degree in an appropriate engineering discipline is required.
- Several years of experience as a supervisor in a related utilities operations department are required.
- Professional engineer certification is usually required for managers of utility operations involved in the distribution of natural gas.

Workplaces/Employers

Private and public sector utilities

Occupational Options

Progression to senior management positions in the utility industry is possible with experience.

Similar Occupations Classified Elsewhere

Facility Operation and Maintenance Managers (0721)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

0912.4 Petroleum Product Distribution Managers

Petroleum product distribution managers plan, organize, direct, control and evaluate the operations and services of heating oil distribution companies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

DIM

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

director, distribution systems – utilities
manager, distribution, refined petroleum
products

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of companies that distribute heating oil products to retail distributors and regional storage sites

- **Verbal and numerical ability** to prepare reports and budget recommendations
- **Directive interest in co-ordinating** information to direct, control and evaluate the operations of heating oil products distribution companies, and to establish supervisory policies

- **Innovative interest in negotiating** with associates in solving interrelated organizational and technical problems; and in evaluating new industrial developments
- **Methodical interest** in overseeing maintenance of equipment and structures, and in maintaining records

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, R

- A bachelor's degree in an appropriate engineering discipline is required.
- Several years of experience as a supervisor in a related utilities operations department are required.
- Professional engineer certification is usually required for managers of utility operations involved in the distribution of heating oil.

Workplaces/Employers

Heating oil distribution companies

Private and public sector utilities

Occupational Options

Progression to senior management positions in the utility industry is possible with experience.

Similar Occupations Classified Elsewhere

Facility Operation and Maintenance Managers (0721)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

0912.5 Water Pollution Control Managers

Water pollution control managers plan, organize, direct, control and evaluate the operations of water purification and treatment companies and services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

DIM

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

director of water pollution control
manager, sewage treatment plant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of sewage treatment plants engaged in water pollution control, purification and treatment services
- **Verbal and numerical ability** to prepare reports on water quality and budget recommendations
- **Directive interest in co-ordinating** information to direct, control and evaluate the operations of sewage treatment plants and to establish supervisory policies
- **Innovative interest in negotiating** with associates to solve interrelated organizational and technical problems; and in evaluating new industrial developments
- **Methodical interest** in scheduling and overseeing maintenance of plant equipment, and in maintaining records

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction
- Body Position
1 Sitting
- Limb Co-ordination
0 Not relevant
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
6+, 7+
- A bachelor's degree or college diploma in an appropriate discipline is required.
 - Several years of experience as a supervisor in a related utilities operations department are required.

Workplaces/Employers

Private and public sector utilities

Occupational Options

Progression to senior management positions in the utility industry is possible with experience.

Similar Occupations Classified Elsewhere

Facility Operation and Maintenance Managers (0721)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

0912.6 Waste Systems Managers

Waste systems managers plan, organize, direct, control and evaluate the operations of utility companies and services engaged in waste disposal and waste recycling.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

DIM

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

director of waste management

liquid waste facility manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize the activities of utility companies and services that operate solid or liquid waste collection and disposal systems

- **Verbal and numerical ability** to prepare reports and budget recommendations
- **Directive interest in co-ordinating** information to direct, control and evaluate solid or liquid waste collection and disposal systems, and to establish supervisory policies

- **Innovative interest in negotiating** with associates in solving interrelated organizational and technical problems; and in evaluating new industrial developments
- **Methodical interest** in training drivers to handle waste materials and in ensuring safe operation of disposal facilities

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- A bachelor's degree or college diploma in an appropriate discipline is required.
- Several years of experience as a supervisor in a related utilities operations department are required.

Workplaces/Employers

Private and public sector utilities

Occupational Options

Progression to senior management positions in the utility industry is possible with experience.

Similar Occupations Classified Elsewhere

Facility Operation and Maintenance Managers (0721)

Senior Managers – Goods Production, Utilities, Transportation and Construction (0016)

**Business, Finance and
Administration Occupations**

Business, Finance and Administration Occupations

MAJOR GROUP 11

PROFESSIONAL OCCUPATIONS IN BUSINESS AND FINANCE

111 Auditors, Accountants and Investment Professionals

1111 Financial Auditors and Accountants

1111.1 Financial Auditors

1111.2 Accountants

1112 Financial and Investment Analysts

1112.1 Financial Analysts

1112.2 Investment Analysts

1113 Securities Agents, Investment Dealers and Brokers

1113.1 Securities Agents and Investment Dealers

1113.2 Brokers

1114 Other Financial Officers

1114.1 Financial Planners

1114.2 Financial Examiners and Inspectors

1114.3 Financial Investigators

1114.4 Underwriters

1114.5 Trust Officers

1114.6 Mortgage Brokers

112 Human Resources and Business Service Professionals

1121 Specialists in Human Resources

1122 Professional Occupations in Business Services to Management

1122.1 Management Consultants

1122.2 Advertising and Promotion Consultants

MAJOR GROUP 12

SKILLED ADMINISTRATIVE AND BUSINESS OCCUPATIONS

121 Clerical Supervisors

1211 Supervisors, General Office and Administrative Support Clerks

1212 Supervisors, Finance and Insurance Clerks

1213 Supervisors, Library, Correspondence and Related Information Clerks

1214 Supervisors, Mail and Message Distribution Occupations

1215 Supervisors, Recording, Distributing and Scheduling Occupations

122 Administrative and Regulatory Occupations

- 1221 Administrative Officers
- 1222 Executive Assistants
- 1223 Personnel and Recruitment Officers
- 1224 Property Administrators
- 1225 Purchasing Agents and Officers
- 1226 Conference and Event Planners
- 1227 Court Officers and Justices of the Peace
 - 1227.1 Court Officers
 - 1227.2 Justices of the Peace
- 1228 Immigration, Employment Insurance and Revenue Officers
 - 1228.1 Immigration Officers
 - 1228.2 Employment Insurance Officers
 - 1228.3 Customs Officers and Inspectors
 - 1228.4 Excise Tax Revenue Officers

123 Finance and Insurance Administrative Occupations

- 1231 Bookkeepers
- 1232 Loan Officers
- 1233 Insurance Adjusters and Claims Examiners
 - 1233.1 Insurance Adjusters
 - 1233.2 Insurance Claims Examiners
- 1234 Insurance Underwriters
- 1235 Assessors, Valuers and Appraisers
 - 1235.1 Assessors
 - 1235.2 Valuers
 - 1235.3 Appraisers
- 1236 Customs, Ship and Other Brokers
 - 1236.1 Customs Brokers
 - 1236.2 Ship Brokers

124 Secretaries, Records and Transcriptionists

- 1241 Secretaries (Except Legal and Medical)
- 1242 Legal Secretaries
- 1243 Medical Secretaries
- 1244 Court Records and Medical Transcriptionists
 - 1244.1 Court Records
 - 1244.2 Medical Transcriptionists

MAJOR GROUP 14
CLERICAL OCCUPATIONS

141 Clerical Occupations, General Office Skills

- 1411 General Office Clerks
- 1413 Records Management and Filing Clerks
 - 1413.1 Records Management Clerks
 - 1413.2 File Clerks
 - 1413.3 Health Records Technicians
- 1414 Receptionists and Switchboard Operators
 - 1414.1 Receptionists
 - 1414.2 Hospital Admitting Clerks
 - 1414.3 Medical and Dental Receptionists
 - 1414.4 Switchboard Operators
 - 1414.5 Answering Service Operators
 - 1414.6 Front Desk Clerks (Except Hotel)

142 Office Equipment Operators

- 1422 Data Entry Clerks
- 1423 Desktop Publishing Operators and Related Occupations
 - 1423.1 Desktop Publishing Operators
 - 1423.2 Markup Persons
 - 1423.3 Typesetting Input Operators
 - 1423.4 Typesetting Output Operators
 - 1423.5 Pre-Flight Operators
 - 1423.6 File Preparation Operators
- 1424 Telephone Operators

143 Finance and Insurance Clerks

- 1431 Accounting and Related Clerks
- 1432 Payroll Clerks
- 1433 Customer Service Representatives – Financial Services
- 1434 Banking, Insurance and Other Financial Clerks
 - 1434.1 Bank Clerks
 - 1434.2 Insurance Clerks
 - 1434.3 Other Financial Clerks
- 1435 Collectors

144 Administrative Support Clerks

- 1441 Administrative Clerks
- 1442 Personnel Clerks
- 1443 Court Clerks

145 Library, Correspondence and Related Information Clerks

1451 Library Clerks

1452 Correspondence, Publication and Related Clerks

1452.1 Classified Advertising Clerks

1452.2 Correspondence Clerks

1452.3 Editorial Assistants and Publication Clerks

1452.4 Proofreaders

1452.5 Readers and Press Clippers

1453 Customer Service, Information and Related Clerks

1453.1 Customer Service Clerks in Retail Establishments

1453.2 Call Centre Agents

1453.3 Customer Service Clerks in Insurance, Telephone, Utility and Similar Companies

1453.4 Information Clerks

1454 Survey Interviewers and Statistical Clerks

1454.1 Survey Interviewers

1454.2 Statistical Clerks

146 Mail and Message Distribution Occupations

1461 Mail, Postal and Related Clerks

1461.1 Postal Clerks

1461.2 Mail Sorters

1461.3 Mail Room Clerks

1462 Letter Carriers

1463 Couriers, Messengers and Door-to-Door Distributors

147 Recording, Scheduling and Distributing Occupations

1471 Shippers and Receivers

1472 Storekeepers and Parts Clerks

1473 Production Clerks

1474 Purchasing and Inventory Clerks

1474.1 Purchasing Clerks

1474.2 Inventory Clerks

1475 Dispatchers and Radio Operators

1475.1 Dispatchers

1475.2 Radio Operators

1476 Transportation Route and Crew Schedulers

1111.1 Financial Auditors

Financial auditors examine and analyze the accounting and financial records of individuals and establishments to ensure accuracy and compliance with established accounting standards and procedures.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	1	4	4	1	4	4	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

financial auditor
internal auditor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine accounting and financial records of individuals, departments, companies and establishments to ensure accuracy and compliance with established accounting standards, procedures and internal controls
- **Verbal ability** to prepare detailed reports on audit findings

- **Numerical ability and clerical perception** to examine and analyze journal and ledger entries, bank statements, inventories, expenditures, tax returns and other accounting and financial records, documents and systems
- **Methodical interest** in conducting field audits of businesses to ensure compliance with provisions of the *Income Tax Act, Canada Business Corporations Act* and other statutory requirements

- **Innovative interest in co-ordinating** information from financial and accounting records, documents and systems to evaluate operational procedures and financial positions of individuals, departments, companies and other establishments
- **Directive interest in consulting** with clients and in making recommendations to improve accounting and management practices; may supervise other auditors or professionals in charge of accounting within client's establishment

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+, R

- To act as a trustee in bankruptcy proceedings, auditors must hold a licence as a trustee in bankruptcy.
- Chartered accountants (CA) require a university degree
and
completion of a professional training program approved by a provincial institute of chartered accountants and depending on the province, either two years or 30 months of on-the-job training
and
membership in a provincial institute of chartered accountants upon successful completion of the Uniform Final Examination (UFE).
- Certified general accountants (CGA) and certified management accountants (CMA) require a university degree
and
completion of a training program approved by the Society of Certified General Accountants or Society of Management Accountants and several years of on-the-job training
and
certification by the Certified General Accountants Association or the Society of Management Accountants.
- Licensure by the provincial or territorial governing body is usually required for accountants and auditors practising public accounting.
- Auditors require education, training and recognition as indicated for chartered accountants, certified general accountants or certified management accountants
and
some experience as an accountant.
- Auditors may require recognition by the Institute of Internal Auditors.

Workplaces/Employers

Private sector accounting and auditing firms/departments

Public sector accounting and auditing departments/units

Self-employment

Occupational Options

There is limited mobility among the three professional accounting designations (CA, CGA and CMA).

Progression to auditing or accounting management positions is possible with experience.

Similar Occupations Classified Elsewhere

Bookkeepers (1231)

Financial Managers (0111)

Program or other non-financial auditors (in 416 *Policy and Program Officers, Researchers and Consultants*)

1111.2 Accountants

Accountants plan, organize and administer accounting systems for individuals and establishments. Articling students in accounting firms are included in this group.

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and set up accounting systems for individuals, departments, companies and other establishments
- **Verbal ability** to develop reporting procedures and prepare financial information; may act as a trustee in bankruptcy proceedings; may train articling students, other accountants and administrative technicians

- **Numerical ability and clerical perception** to examine accounting records and prepare financial statements and reports
- **Methodical interest** in administering accounting systems, examining financial accounts and records, preparing income tax returns from accounting records, and in maintaining internal control procedures
- **Innovative interest in co-ordinating** information to develop cost finding and internal control procedures; and in analyzing financial statements and reports
- **Directive interest in consulting** with clients to provide financial, business and tax advice; may supervise articling students, other accountants and administrative technicians

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, R

- Chartered accountants (CA) require a university degree
and
completion of a professional training program approved by a provincial institute of chartered accountants and depending on the province, either two years or 30 months of on-the-job training
and
membership in a provincial institute of chartered accountants upon successful completion of the Uniform Final Examination (UFE).
- Certified general accountants (CGA) and certified management accountants (CMA) require a university degree
and
completion of a training program approved by the Society of Certified General Accountants or Society of Management Accountants and several years of on-the-job training
and
certification by the Certified General Accountants Association or the Society of Management Accountants.

- To act as a trustee in bankruptcy proceedings, accountants must hold a licence as a trustee in bankruptcy.
- Licensure by the provincial or territorial governing body is usually required for accountants and auditors practising public accounting.

Workplaces/Employers

Private sector accounting and auditing firms/departments

Public sector accounting and auditing departments/units

Self-employment

Occupational Options

There is limited mobility among the three professional accounting designations (CA, CGA and CMA).

With experience, accountants may become auditors.

Progression to accounting management positions is possible with experience.

Similar Occupations Classified Elsewhere

Bookkeepers (1231)

Financial Managers (0111)

Program or other non-financial auditors
(in 416 *Policy and Program Officers, Researchers and Consultants*)

1112.1 Financial Analysts

Financial analysts collect and analyze financial information such as economic forecasts, trading volumes and the movement of capital, financial backgrounds of companies, historical performances and future trends of stocks, bonds and other investment instruments to provide financial and investment or financing advice for their companies or their companies' clients. Their studies and evaluations cover areas such as takeover bids, private placements, merges and acquisitions.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	1	4	4	2	4	4	4
INTERESTS								
MIId								
DATA PEOPLE THINGS (DPT)								
228								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
7+, 8, R								

Examples of Job Titles

chartered financial analyst
financial analyst
portfolio manager
research associate, financial services

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to evaluate financial risk, prepare financial forecasts, financing scenarios and other documents concerning management of capital
- **Verbal and numerical ability** to advise on and participate in the financial aspects of contracts and calls for tender, to prepare a regular risk profile for debt portfolios and to write reports and recommendations
- **Innovative interest in analyzing** investment projects; in developing tools for managing and analyzing financial portfolios; and in evaluating financial risk and preparing financial forecasts, financing scenarios and other documents concerning capital management
- **Clerical perception** to assist in preparing operating and investment budgets
- **Directive interest in consulting** with financial backers to follow up on financing projects
- **Methodical interest** in planning short- and long-term cash flows, assessing financial performance, and in implementing and using tools for managing and analyzing financial portfolios

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, 8, R

- A Bachelor's degree in commerce, business administration or economics *and* on-the-job training and industry courses and programs are usually required.
- A post-graduate degree, such as a Master of Business Administration (MBA) with a concentration in finances or a Master's in finance, may be required.
- The Chartered Financial Analyst (CFA) designation, available through a program conducted by the Institute of Chartered Financial Analysts in the United States, may be required by some employers.

Occupational Options

Progression to management positions, such as securities manager, is possible with experience.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial planners (in 1114 *Other Financial Officers*)

Securities Agents, Investment Dealers and Brokers (1113)

Workplaces/Employers

Banks

Brokerage houses

Establishments throughout the public sector

Insurance companies

Investment companies

Manufacturing firms

Trust companies

Underwriting firms

Utility companies

1112.2 Investment Analysts

Investment analysts collect and analyze financial information such as economic forecasts, trading volumes and the movement of capital, financial backgrounds of companies, historical performances and future trends of stocks, bonds and other investment instruments to provide investment advice for their companies or their companies' clients. Their studies and evaluations cover areas such as takeover bids, private placements, merges and acquisitions.

Profile Summary										Examples of Job Titles									
APTITUDES										investment analyst investment consultant money market analyst									
G	V	N	S	P	Q	K	F	M											
2	2	1	4	4	2	4	4	4											
INTERESTS																			
MId																			
DATA PEOPLE THINGS (DPT)																			
228																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	0	2	1	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
7+, 8, R																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to collect and analyze financial and investment information about companies, stocks, bonds and other investments to provide investment consulting services
- **Verbal and numerical ability** to prepare company, industry and economic outlooks, analytical reports, briefing notes and correspondence
- **Clerical perception** to examine financial and investment information including profiles of companies, stock and bond prices, yields and future trends and other investment information
- **Methodical interest** in collecting financial and investment information about companies, stocks, bonds and other investments using daily stock and bond reports, economic forecasts, trading volumes, financial periodicals, securities manuals, company financial statements and other financial reports and publications
- **Innovative interest in analyzing** financial and investment information from studies of takeover bids, private placements, mergers and acquisitions
- **Directive interest in consulting** with clients, senior company officials, pension fund managers, securities agents and associates to provide investment advice and recommendations

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7+, 8, R

- A bachelor's degree in commerce, business administration or economics *and* on-the-job training and industry courses and programs are usually required.
- A post-graduate degree, such as a Master of Business Administration (MBA) with a concentration in finances or a Master's in finance, may be required.
- The Chartered Financial Analyst (CFA) designation, available through a program conducted by the Institute of Chartered Financial Analysts in the United States, may be required by some employers.

Workplaces/Employers

Brokerage houses
Trust companies

Occupational Options

Progression to management positions, such as securities manager, is possible with experience.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial planners (in 1114 *Other Financial Officers*)

Securities Agents, Investment Dealers and Brokers (1113)

1113.1 Securities Agents and Investment Dealers

Securities agents and investment dealers buy and sell stocks, bonds, treasury bills, mutual funds and other securities for individual investors, pension fund managers, banks, trust companies, insurance firms and other establishments.

Profile Summary										Examples of Job Titles									
APTITUDES										agent, securities bond dealer investment dealer mutual fund broker mutual fund sales representative registered investment representative securities sales agent stockbroker supervisor, registered representatives									
G	V	N	S	P	Q	K	F	M											
2	2	2	4	4	3	4	4	4											
INTERESTS																			
ISM																			
DATA PEOPLE THINGS (DPT)																			
128																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	0	2	1	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
7+, 8+, R																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to review financial periodicals, stock and bond reports, business publications and other materials in order to buy and sell stocks, bonds, treasury bills, mutual funds and other securities for individual investors, pension fund managers or companies

- **Verbal and numerical ability** to review financial periodicals, stock and bond reports, business publications and other materials and to carry out investment orders
- **Innovative interest** in identifying potential investments for clients and in preparing investment strategies to help clients achieve their financial goals

- **Social interest** in **consulting** clients by offering advice and information on various investments to guide them in managing their portfolios; and in developing long-term relationships with clients and a network within the financial industry to gather relevant information
- **Methodical interest** in **co-ordinating** information to monitor clients' investment portfolios and ensure that investment transactions are carried out according to industry regulations

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7+, 8+, R

- A bachelor's or master's degree in economics, business or other discipline is usually required.
- Securities representatives require completion of industry investment and sales training programs and completion of the Canadian Securities Course and examination offered by the Canadian Securities Institute.
- Specialized courses are also available for securities sales representatives who want to trade in specific investment products such as securities options and futures contracts.
- Licensure by the provincial securities commission in the province of employment is required for securities agents and investment dealers.

Workplaces/Employers

Investment companies
Securities industry
Stock and commodity exchanges
Stock brokerage firms

Occupational Options

Progression to related management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Financial and Investment Analysts
(1112)

Financial brokerage managers (in 0121
Insurance, Real Estate and Financial Brokerage Managers)

Other Financial Officers (1114)

1113.2 Brokers

Brokers buy and sell stocks, bonds, commodity futures, foreign currencies and other securities at stock exchanges on behalf of investment dealers.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

IMS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

- broker
- commodity broker
- discount broker
- floor trader – commodity exchange
- foreign exchange trader
- securities trader

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to review investment information in order to buy and sell stocks, bonds, commodity futures, foreign currencies and other securities at stock exchanges on behalf of investment dealers
- **Verbal and numerical ability** to contact trading departments of other investment firms, pension-fund managers and financial analysts, to complete details of sales on exchange trade tickets, and to prepare reviews of portfolios' positions
- **Innovative interest** in developing trading strategies
- **Methodical interest** in **co-ordinating** information to monitor market conditions from exchange floor and trading departments of other investment firms
- **Social interest** in **negotiating** when making bids and offers to buy and sell securities

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+, 8+, R

- A bachelor's or master's degree in economics, business or other discipline is usually required.
- Brokers require completion of industry investment and sales training programs and completion of the Canadian Securities Course and the Registered Representative Manual Exam offered by the Canadian Securities Institute.
- Specialized courses are also available for brokers who want to trade in specific investment products such as securities options and futures contracts.
- Licensure by the provincial securities commission in the province of employment is required for brokers.

Workplaces/Employers

Investment companies
Securities industry
Stock and commodity exchanges
Stock brokerage firms

Occupational Options

Progression to related management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Financial and Investment Analysts
(1112)

Financial brokerage managers (in 0121
Insurance, Real Estate and Financial Brokerage Managers)

Other Financial Officers (1114)

1114.1 Financial Planners

Financial planners provide professional services to assist individuals in identifying and attaining personal financial goals.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

228

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

 $7, +, R$

Examples of Job Titles

financial planner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> ■ General learning ability to develop personal financial plans for clients ■ Verbal ability to outline available services and explain fee structures to clients and to advise clients on implementing their financial plan | <p>information from clients such as bank account records, pension plan and other employee benefit-package information, tax records, insurance policies and related documentation; may also arrange for sale of financial products and investments depending on licence held, and monitor portfolios to ensure quality and profitability</p> | <p>investments, retirement and estate planning and taxes and legal matters; and in helping to expand business and attract new clients</p> |
|---|---|---|

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7, +, R

- A bachelor's degree in business administration, commerce, economics or a related field is usually required.
- Various training programs and courses are offered by financial institutes and organizations, such as the Canadian Securities Institute, Institute of Canadian Bankers, Institute of Chartered Financial Analysts, Investment Funds Institute, Canadian Institute of Financial Planning and Trust Companies Institute of Canada, and may be required by employers.
- The designation Personal Financial Planner, awarded by the Financial Planners Standards Council of Canada, may be required.
- Financial planners who sell regulated financial products and investments, such as annuities, RRSPs and life insurance, are required to be licensed by the appropriate governing body.

Workplaces/Employers

Banks
Governments
Investment firms
Self-employment
Trust companies

Occupational Options

Progression to financial management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Managers in Financial and Business Services (012)

Securities Agents, Investment Dealers and Brokers (1113)

1114.2 Financial Examiners and Inspectors

Financial examiners and inspectors review financial establishments and services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	2	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, +, R

Examples of Job Titles

credit unions examiner
inspector, financial institutions

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine and evaluate operating procedures of financial institutions and establishments and financial service providers
- **Verbal and numerical ability and clerical perception** to examine financial records, policies, agreements and other documents
- **Methodical interest** in obtaining information on the financial practices of banks, trust companies, credit unions, caisses populaires, credit companies, real estate companies, insurance companies, pension funds, securities brokers and other financial services and institutions
- **Innovative interest** in **analyzing** information on financial practices and procedures to determine compliance with legislation and regulations
- **Directive interest** in **speaking** with senior officials of financial services and institutions to conduct examinations and reviews; and in ensuring that practices and procedures comply with legislation and regulations

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, +, R

- A bachelor's degree in business administration, commerce, economics or a related field is usually required.
- Various training programs and courses are offered by financial institutes and organizations, such as the Canadian Securities Institute, Institute of Canadian Bankers, Institute of Chartered Financial Analysts, Investment Funds Institute, Canadian Institute of Financial Planning and Trust Companies Institute of Canada, and may be required by employers.
- Financial examiners and inspectors may require a recognized accounting designation.

Workplaces/Employers

Banks

Governments

Investment firms

Self-employment

Trust companies

Occupational Options

Progression to financial management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Managers in Financial and Business Services (012)

Securities Agents, Investment Dealers and Brokers (1113)

1114.3 Financial Investigators

Financial investigators investigate the practices of securities and commodity futures traders and other financial service providers.

Profile Summary

APTITUDES

G

V

N

S

P

Q

K

F

M

2

2

2

4

4

2

4

4

4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V

C

H

B

L

S

2

0

2

1

0

1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, +

Examples of Job Titles

financial investigator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to investigate and assess ethical conduct of individuals and companies that trade in securities and commodity futures and provide related financial services

- **Verbal and numerical ability** and **clerical perception** to review securities and commodity futures laws and financial records, documents and agreements
- **Methodical interest** in obtaining documentation and information required for conducting investigations

- **Innovative interest** in **analyzing** information to determine possible unethical conduct and breaches of securities and commodity futures laws
- **Directive interest** in **speaking** with representatives of companies and individuals to conduct investigations

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	0	Not relevant
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
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Employment Requirements

Education/Training
7, +

- A bachelor's degree in business administration, commerce, economics or a related field is usually required.
- Various training programs and courses are offered by financial institutes and organizations, such as the Canadian Securities Institute, Institute of Canadian Bankers, Institute of Chartered Financial Analysts, Investment Funds Institute, Canadian Institute of Financial Planning and Trust Companies Institute of Canada, and may be required by employers.

Workplaces/Employers

Banks
Governments
Investment firms
Self-employment
Trust companies

Occupational Options

Progression to financial management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Managers in Financial and Business Services (012)

Securities Agents, Investment Dealers and Brokers (1113)

1114.4 Underwriters

Underwriters provide services related to the issuing of new stocks, bonds and securities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

218

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, +

Examples of Job Titles

underwriter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the terms and conditions governing the underwriting of stocks, bonds and securities
- **Verbal and numerical ability and clerical perception** to review documentation related to issuing stocks, bonds and other types of securities and to prepare offering prospectus
- **Innovative interest** in analyzing regulations, terms and conditions to underwrite new issues of stocks and bonds and develop information brochures
- **Methodical interest** in obtaining information and documentation related to the underwriting of new issues of stocks, bonds and securities
- **Directive interest** in negotiating with corporations and governments to determine the types and terms of new securities issued

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, +

- A bachelor's degree in business administration, commerce, economics or a related field is usually required.
- Various training programs and courses are offered by financial institutes and organizations, such as the Canadian Securities Institute, Institute of Canadian Bankers, Institute of Chartered Financial Analysts, Investment Funds Institute, Canadian Institute of Financial Planning and Trust Companies Institute of Canada, and may be required by employers.

Workplaces/Employers

Banks

Governments

Investment firms

Self-employment

Trust companies

Occupational Options

Progression to financial management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Managers in Financial and Business Services (012)

Securities Agents, Investment Dealers and Brokers (1113)

1114.5 Trust Officers

Trust officers administer trusts, direct trust investments and disburse trust funds.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

368

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, +

Examples of Job Titles

estate and trust administrator
trust officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to administer private, corporate and probate trusts and to evaluate assets of probated accounts for beneficiaries, banks and courts
- **Verbal ability** to prepare inventories
- **Numerical ability and clerical perception** to record investment income and disburse trust funds
- **Methodical interest** in **compiling** information to administer estate, personal, charitable, corporate and other types of trusts
- **Innovative interest** in investing trust funds
- **Directive interest** in **speaking** with clients to carry out securities transactions and direct trust account investments

Physical Activities

- Vision**
2 Near vision
- Colour Discrimination**
0 Not relevant
- Hearing**
2 Verbal interaction
- Body Position**
1 Sitting
- Limb Co-ordination**
0 Not relevant
- Strength**
1 Limited

Environmental Conditions

- Location**
L1 Regulated inside climate

Employment Requirements

- Education/Training
7, +
- A bachelor's degree in business administration, commerce, economics or a related field is usually required.
 - Various training programs and courses are offered by financial institutes and organizations, such as the Canadian Securities Institute, Institute of Canadian Bankers, Institute of Chartered Financial Analysts, Investment Funds Institute, Canadian Institute of Financial Planning and Trust Companies Institute of Canada, and may be required by employers.

Workplaces/Employers

- Banks
- Governments
- Investment firms
- Self-employment
- Trust companies

Occupational Options

Progression to financial management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Managers in Financial and Business Services (012)

Securities Agents, Investment Dealers and Brokers (1113)

1114.6 Mortgage Brokers

Mortgage brokers provide services related to procuring mortgages.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

318

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, +, R

Examples of Job Titles

mortgage broker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand terms and conditions of mortgages and to apply to lenders and lending institutions for mortgages on behalf of clients
- **Verbal ability** to obtain required information from clients and arrange meetings with lenders and clients
- **Numerical ability and clerical perception** to collect fees based on mortgage amounts and examine surveyors' certificates and legal documents
- **Methodical interest** in compiling information on clients' incomes, liabilities and assets, as well as type, price and condition of properties to be mortgaged; and in preparing mortgage applications
- **Innovative interest** in negotiating mortgages with lenders and officials of lending institutions
- **Directive interest** in advising clients on availability, conditions and terms of mortgages

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7, +, R

- A bachelor's degree in business administration, commerce, economics or a related field is usually required.
- Various training programs and courses are offered by financial institutes and organizations, such as the Canadian Securities Institute, Institute of Canadian Bankers, Institute of Chartered Financial Analysts, Investment Funds Institute, Canadian Institute of Financial Planning and Trust Companies Institute of Canada, and may be required by employers.
- Mortgage brokers require a real estate licence in Quebec and a mortgage broker licence in Newfoundland and Labrador, Nova Scotia, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

Workplaces/Employers

Banks
Governments
Investment firms
Self-employment
Trust companies

Occupational Options

Progression to financial management positions is possible with experience.

While these kinds of positions require a high degree of training and qualifications, persons who occupy them must continually update their skills and pursue professional development.

Similar Occupations Classified Elsewhere

Economic development officers (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Managers in Financial and Business Services (012)

Securities Agents, Investment Dealers and Brokers (1113)

1121 Specialists in Human Resources

Specialists in human resources develop, implement and evaluate human resources and labour relations policies, programs and procedures, and advise managers and employees on personnel matters.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

IMS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, 7

Examples of Job Titles

- business agent, labour organization
- classification officer
- classification specialist
- compensation research analyst
- conciliator
- consultant, human resources
- employee relations officer
- employment equity officer
- human resources research officer
- job analyst
- labour relations officer
- mediator
- union representative
- wage analyst

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, develop, implement and evaluate personnel and labour relations strategies including policies, programs and procedures to address an organization's human resource requirements
- **Verbal and numerical ability** to research and prepare occupational classifications, job descriptions and salary scales and competency appraisal measures and systems
- **Innovative interest** in researching employee benefit programs and health and safety practices to recommend policy changes and modifications, and in planning staffing, total compensation, training and career development, employee assistance, employment equity and affirmative action programs
- **Methodical interest in co-ordinating** information to administer staffing, total compensation, training and career development, employee assistance, employment equity and affirmative action programs; in co-ordinating employee performance and appraisal programs, in managing programs and maintaining human resources information and related records systems; and in hiring and overseeing training of staff
- **Social interest in negotiating** collective agreements on behalf of employers or workers; in mediating labour disputes and grievances, providing advice on employee and labour relations, and in advising managers and employees on the interpretation of personnel policies, compensation and benefit programs and collective agreements

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5, 6, 7

- A university degree or college diploma in a field related to personnel management, such as business administration, industrial relations, commerce or psychology
or
completion of a professional development program in personnel administration is required.
- Some experience in a clerical or administrative position related to personnel administration may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Self-employment

Occupational Options

Progression to management positions is possible with experience.

Similar Occupations Classified Elsewhere

Human Resources Managers (0112)

Personnel and Recruitment Officers (1223)

Personnel Clerks (1442)

Professional Occupations in Business Services to Management (1122)

Training officers and instructors (in 4131
College and Other Vocational Instructors)

1122.1 Management Consultants

Management consultants provide services to management, such as analyzing the operations, managerial methods and functions of organizations, in order to propose, plan and implement improvements.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	4	4	2	4	4	4
INTERESTS								
IDS								
DATA PEOPLE THINGS (DPT)								
228								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
6, 7, 8, R								

Examples of Job Titles

- business management consultant
- business methods analyst
- consultant, organizational analysis
- ISO consultant
- management analyst
- organizational analyst
- researcher, organization and methods
- senior consultant, operations management

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan the re-organization of the operation of establishments
- **Verbal ability and clerical perception** to review work studies, organization and flow charts, records, reports, manuals and job descriptions
- **Innovative interest** in analyzing managerial methods and organization of public and private sector establishments; in conducting research to determine the efficiency and effectiveness of managerial policies and programs, in conducting quality audits, and in developing quality management and quality assurance standards for ISO (International Organization for Standardization) registration
- **Directive interest** in conducting assessments and proposing, planning and implementing improvements to methods, systems and procedures in areas such as operations, human resources, records management and communications; may supervise contracted researchers and clerical staff
- **Social interest** in consulting with senior officials to provide advice on managerial methods and organization of public and private sector establishments

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8, R

- A bachelor's degree or college diploma in business administration or commerce is usually required.
- A graduate degree in business administration may be required.
- Some establishments may require management consultants to be certified by a provincial management consulting association.
- Certification as a quality auditor may be required for some occupations in this group.

Workplaces/Employers

Management consulting firms

Private and public sector organizations

Self-employment

Occupational Options

Progression to senior and managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultant (4163)

Economists and Economic Policy Researchers and Analysts (4162)

Financial and Investment Analysts (1112)

Financial Auditors and Accountants (1111)

Industrial and Manufacturing Engineers (2141)

Other Financial Officers (1114)

1122.2 Advertising and Promotion Consultants

Advertising and promotion consultants provide services to management such as analyzing needs and developing appropriate advertising plans.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	2	4	4	4

INTERESTS

ISD

DATA PEOPLE THINGS (DPT)

228

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8

Examples of Job Titles

advertising account executive
promotion specialist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess characteristics of products and services to be promoted
- **Verbal ability** and **clerical perception** to review publications, obtain information regarding existing market conditions and maintain records of statistical information
- **Innovative interest** in **analyzing** advertising needs of establishments; and in developing advertising campaigns and in evaluating promotional and marketing results against budgeted sales, costs, profits and effect on future sales
- **Social interest** in **consulting** with managers of establishments on advertising needs; and in advising clients on advertising and sales promotion strategies
- **Directive interest** in implementing advertising campaigns for print and electronic media

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8

- A bachelor's degree or college diploma in business administration or commerce is usually required.
- A graduate degree in business administration may be required.

Workplaces/Employers

Advertising agencies

Private and public sector organizations

Self-employment

Occupational Options

Progression to senior and managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultant (4163)

Economists and Economic Policy Researchers and Analysts (4162)

Financial and Investment Analysts (1112)

Financial Auditors and Accountants (1111)

Other Financial Officers (1114)

Professional Occupations in Public Relations and Communications (5124)

1211

Supervisors, General Office and Administrative Support Clerks

Supervisors in this group supervise and co-ordinate the activities of workers in the following minor groups: *Clerical Occupations, General Office Skills* (141), *Office Equipment Operators* (142) and *Administrative Support Clerks* (144).

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4
INTERESTS								
MDS								
DATA PEOPLE THINGS (DPT)								
138								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
4+								

Examples of Job Titles

clerical supervisor
data entry supervisor
filing clerks supervisor
hospital admitting clerks supervisor
medical records unit supervisor
personnel clerks supervisor
records office supervisor
registry supervisor
supervisor, switchboard operators

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assign and review the work of clerks engaged in word processing, record keeping and filing, operating telephones and switchboards, data entry, desktop publishing and other activities involving general office and administrative skills; may perform the same duties as workers supervised
- **Verbal ability** to prepare progress and other reports
 - **Numerical ability and clerical perception** to requisition supplies and materials and to review work prepared by clerks
 - **Methodical interest** in **co-ordinating** the work of clerks and activities with other units and departments; and in submitting progress reports, in ensuring smooth operation of office equipment and machinery and in arranging for maintenance and repair work
- **Directive interest** in **supervising** the activities of workers; and in resolving work problems and establishing work schedules and procedures
 - **Social interest** in training workers in job duties, safety procedures and company policies

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
4+
- Completion of secondary school is required.
 - Completion of college courses related to area supervised is usually required.
 - Experience in the occupation supervised is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

Office managers (in 1221 *Administrative Officers*)

Supervisors, Finance and Insurance Clerks (1212)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

Supervisors, Mail and Message Distribution Occupations (1214)

Supervisors, Recording, Distributing and Scheduling Occupations (1215)

1212 Supervisors, Finance and Insurance Clerks

Supervisors in this group supervise and co-ordinate the activities of workers in the following groups: *Accounting and Related Clerks* (1431), *Payroll Clerks* (1432), *Customer Service Representatives – Financial Services* (1433), *Banking, Insurance and Other Financial Clerks* (1434) and *Collectors* (1435).

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	2	4	4	2	4	4	4

INTERESTS

MDS

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 6

Examples of Job Titles

- accounts payable supervisor
- accounts receivable supervisor
- bank clerks supervisor
- billing supervisor
- bookkeeping supervisor
- collection supervisor
- credit supervisor
- payroll supervisor
- savings supervisor
- supervisor of accounting
- supervisor, claims adjusters
- supervisor, customer service representatives

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assign and review the work of clerks engaged in administering accounts payable and receivable; processing, verifying and recording financial documents and forms; administering payrolls; serving customers in banks, trust companies and other financial institutions; processing, verifying and recording insurance claims and forms; and collecting user fees and payments on overdue accounts; may perform the same duties as workers supervised
- **Verbal ability** to prepare progress and other reports
- **Numerical ability and clerical perception** to requisition supplies and materials and to examine and verify the accuracy of work prepared by clerks
- **Methodical interest in co-ordinating** the work of clerks and activities with other units and departments; and in submitting progress reports, in ensuring smooth operation of computer systems and equipment and in arranging for maintenance and and repair work
- **Directive interest in supervising** the activities of workers; and in implementing efficient working processes, identifying training needs, resolving work-related problems, establishing work schedules and procedures, and authorizing routine payments, credits, deposits and withdrawals
- **Social interest** in training workers in job duties and company policies

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
4, 6
- Completion of a college program or courses in bookkeeping, accounting or a related subject is required.
 - Experience in the clerical occupation supervised is required.

Workplaces/Employers

Banks
Establishments throughout the private and public sectors
Financial institutions
Insurance companies

Similar Occupations Classified Elsewhere

Financial Managers (0111)
Other Financial Officers (1114)

1213

Supervisors, Library, Correspondence and Related Information Clerks

Supervisors in this group supervise and co-ordinate the activities of workers in the following groups: *Library Clerks* (1451), *Correspondence, Publication and Related Clerks* (1452), *Customer Service, Information and Related Clerks* (1453) and *Survey Interviewers and Statistical Clerks* (1454).

Profile Summary										Examples of Job Titles									
APTITUDES										advertising clerks supervisor correspondence clerks supervisor customer service supervisor (except financial services) information clerks supervisor library clerks supervisor publication clerks supervisor statistical clerks supervisor supervisor, call centre agents supervisor, survey interviewers									
G	V	N	S	P	Q	K	F	M											
3	3	3	4	4	2	4	4	4											
INTERESTS																			
MDS																			
DATA PEOPLE THINGS (DPT)																			
138																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	0	2	3	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
4+																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assign and review the work of clerks engaged in conducting surveys and interviews, collecting and compiling statistics, providing information and customer service, reshelving books and performing other tasks in libraries, writing correspondence including e-mails and preparing material for translation and publication; may perform the same duties as workers supervised

▪ **Verbal ability** to prepare progress and other reports

▪ **Numerical ability and clerical perception** to requisition supplies and materials and to verify accuracy of work prepared by clerks

▪ **Methodical interest in co-ordinating** the work of clerks and activities with other units and departments; and in submitting progress reports, ensuring the smooth operation of computer systems and equipment, and arranging for maintenance and repair work

▪ **Directive interest in supervising** the activities of workers; and in resolving work-related problems, monitoring services provided by clerks and agents and establishing work schedules and procedures

▪ **Social interest** in training workers in job duties and company policies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+

- Completion of secondary school is required.
- Completion of college courses related to area supervised may be required.
- Experience in the clerical occupation supervised is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

Librarians (5111)

Library and Archive Technicians and Assistants (5211)

Supervisors, Mail and Message Distribution Occupations (1214)

1214

Supervisors, Mail and Message Distribution Occupations

Supervisors in this group supervise and co-ordinate the activities of workers in the following groups: *Mail, Postal and Related Clerks* (1461), *Letter Carriers* (1462) and *Couriers, Messengers and Door-to-Door Distributors* (1463).

Profile Summary

Aptitudes

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	2	4	4	4

Interests

MDS

Data People Things (DPT)

138

Physical Activities (PA)

V	C	H	B	L	S
2	0	2	3	0	1

Environmental Conditions (EC)

L1

Education/Training

4+

Examples of Job Titles

courier service supervisor
letter carriers supervisor
mail and postal clerks supervisor
mail room supervisor
messenger service supervisor
postal station supervisor
postmaster/mistress

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assign and review the work of postal clerks, letter carriers and couriers engaged in collecting, sorting and delivering of mail, parcels and other material; may perform the same duties as workers supervised
- **Verbal ability** to prepare progress and other reports
- **Numerical ability** and **clerical perception** to requisition supplies and materials
- **Methodical interest in co-ordinating** the work of postal clerks, letter carriers and couriers, and activities with other units and departments; and in submitting progress reports, ensuring the smooth operation of computer systems and equipment, and arranging for maintenance and repair work
- **Directive interest in supervising** the activities of workers; and in resolving work-related problems and establishing work schedules and procedures
- **Social interest** in training workers in job duties, safety procedures and company policies

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction
- Body Position
3 Sitting, standing, walking
- Limb Co-ordination
0 Not relevant
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
4+
- Completion of secondary school is required.
 - Several years of experience in the occupation supervised are usually required.

Workplaces/Employers

- Canada Post Corporation
- Courier companies
- Governments
- Large corporations

Similar Occupations Classified Elsewhere

- Postal and Courier Services Managers (0132)*
- Shipping and receiving supervisors (in 1215 *Supervisors, Recording, Distributing and Scheduling Occupations*)

1215 Supervisors, Recording, Distributing and Scheduling Occupations

Supervisors in this group supervise and co-ordinate the activities of workers in the following groups: *Shippers and Receivers* (1471), *Storekeepers and Parts Clerks* (1472), *Production Clerks* (1473), *Purchasing and Inventory Clerks* (1474), *Dispatchers and Radio Operators* (1475) and *Transportation Route and Crew Schedulers* (1476).

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MDS

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+

Examples of Job Titles

dispatch logistician	
flight crew scheduling supervisor	
freight forwarding logistician	
head dispatcher	
head shipper	
inventory control supervisor	
logistics supervisor – transportation	
parts service supervisor	
production clerks supervisor	
ramp services supervisor – airport	
stock control supervisor	
supervisor, receiving	
supply control co-ordinator	

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assign and review the work of clerks engaged in shipping, receiving, storing, distributing and maintaining inventories of materials, parts and products; in processing purchasing transactions; in co-ordinating production work; in dispatching crews; in scheduling transportation crews and routes; in operating airport ramp servicing vehicles; and performing other related activities; may perform the same duties as workers supervised
- **Verbal ability** to prepare progress and other reports
- **Numerical ability and clerical perception** to requisition supplies and materials
- **Methodical interest in co-ordinating** the work of clerks and activities with other units and departments; and in submitting progress reports, ensuring the smooth operation of computer systems, equipment and machinery, and arranging for maintenance and repair work
- **Directive interest** in **supervising** the activities of workers; and in resolving work-related problems and establishing work schedules and procedures
- **Social interest** in training workers in job duties, safety procedures and company policies

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4+

- Completion of secondary school is usually required.
- Several years of experience in the occupation supervised are usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

Supervisors, Mail and Message Distribution Occupations (1214)

1221 Administrative Officers

Administrative officers oversee and implement administrative procedures, establish work priorities and co-ordinate the acquisition of administrative services such as office space, supplies and security services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

MDS

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 6+, 7+

Examples of Job Titles

- access to information and privacy officer
- administrative officer
- administrative services co-ordinator
- co-ordinator, office services
- forms management officer
- liaison officer
- office administrator
- office manager
- planning officer
- records analyst – access to information
- requirements officer – military
- surplus assets officer
- university admissions officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to co-ordinate office administrative procedures and to review, evaluate and implement new procedures
- **Verbal ability** to prepare periodic and special reports, manuals and correspondence
- **Numerical ability and clerical perception** to assemble data and assist in the preparation of operating budgets
- **Methodical interest in co-ordinating** office services such as admissions to post-secondary educational institutions, accommodation, relocations, equipment, supplies, forms, disposal of assets, parking, maintenance and security services; and in maintaining inventory and budgetary controls
- **Directive interest in supervising** and overseeing office administrative procedures; in administering policies and procedures related to the release of records in processing requests under government access to information and privacy legislation; and in establishing work priorities, delegating work to office support staff and in ensuring deadlines are met and procedures followed
- **Social interest** in planning and arranging for the acquisition of administrative and office services

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4+, 6+, 7+

- Completion of secondary school is required.
- A university degree or college diploma in business or public administration may be required.
- Experience in a senior clerical or executive secretarial position related to office administration is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to administrative service management positions is possible with experience.

Similar Occupations Classified Elsewhere

Administrative Clerks (1441)

Administrative services managers (in 0114 *Other Administrative Services Managers*)

Conference and Event Planners (1226)

Executive Assistants (1222)

Property Administrators (1224)

1222 Executive Assistants

Executive assistants co-ordinate administrative procedures, public relations activities, research and analysis for members of legislative assemblies, ministers, deputy ministers, corporate officials and executives, committees and boards of directors.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4
INTERESTS								
MDS								
DATA PEOPLE THINGS (DPT)								
168								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
4+, 5+, 6+, 7+								

Examples of Job Titles

committee clerk
corporate secretary
executive assistant
legislative assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to establish and co-ordinate administrative policies and procedures for officials, committees and boards of directors, and to analyze incoming and outgoing memoranda, submissions and reports
- **Verbal ability** to discuss issues and meet with individuals, special interest groups and others
- **Numerical ability and clerical perception** to conduct research, compile data and prepare summary briefs and reports, and to prepare papers for executives, committees and boards of directors
- **Methodical interest** in preparing agendas and making arrangements for committee, board and other meetings
- **Directive interest** in co-ordinating information to assess and recommend courses of action, and to prepare and oversee the preparation and submission of summary briefs and reports
- **Social interest** in speaking with individuals, special interest groups and others, and to liaise with department and corporate officials and with other organizations and associations

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

**Employment
Requirements**

Education/Training

4+, 5+, 6+, 7+

- Completion of secondary school is required.
- A bachelor's degree in public administration, political science or a related discipline is usually required.
- Experience in a related administrative occupation is usually required.

Workplaces/Employers

Associations

Corporations

Governments

**Similar Occupations
Classified Elsewhere**

Administrative Officers (1221)

Conference and Event Planners (1226)

Executive secretaries (in 1241
Secretaries (Except Legal and Medical))

1223 Personnel and Recruitment Officers

Personnel and recruitment officers identify and advertise job vacancies, recruit candidates and assist in the selection and reassignment of employees.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

168

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, 7, R

Examples of Job Titles

human resources officer
personnel officer
personnel selection officer – military
placement officer
recruiter
recruitment specialist
staffing analyst
staffing co-ordinator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to identify current and prospective staffing requirements, review candidate inventories and evaluate candidates, to organize and administer staff consultation and grievance procedures, and to provide services such as employee assistance, counselling and recognition programs
- **Verbal ability** to contact potential applicants and arrange interviews; and to notify applicants of results of selection process and prepare job offers
- **Numerical ability and clerical perception** to screen applications and participate in selection and examination boards; and to determine eligibility to entitlements
- **Social interest in speaking** with job applicants to advise them on employment requirements and on terms and conditions of employment, to negotiate settlements of appeals and disputes and to advise managers and employees on staffing policies and procedures
- **Methodical interest** in preparing and posting notices and advertisements; and in collecting applications
- **Directive interest in co-ordinating** information to recruit graduates of colleges, universities and other educational institutions and to arrange transfers, redeployment and placement of personnel and staff training; and in co-ordinating selection and examination boards and termination of employment process; may supervise personnel clerks performing filing, typing and record-keeping duties

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
1 Sitting

- Limb Co-ordination
0 Not relevant

- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
5, 6, 7, R
- A university degree or college diploma in a field related to personnel management such as business administration, industrial relations, commerce or psychology
or
completion of a professional development program in personnel administration is usually required.
 - Certification as a Certified Human Resources Professional (CHRP) may be required.
 - Some experience in a clerical or administrative position related to personnel administration may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to specialist and management positions is possible with experience.

Similar Occupations Classified Elsewhere

- Human Resources Managers* (0112)
- Personnel Clerks* (1442)
- Specialists in Human Resources* (1121)
- Training officers and instructors (in 4131 *College and Other Vocational Instructors*)

1224 Property Administrators

Property administrators perform administrative duties and co-ordinate activities related to the management and rental of investment property and real estate on behalf of property owners.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

MDs

DATA PEOPLE THINGS (DPT)

368

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 5+

Examples of Job Titles

accommodation officer
apartment rental agent
housing project manager
leasing co-ordinator, property
property administrator
property rentals manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to approve rentals of properties on behalf of property owners, and to administer damage deposits and contracts for provision of property services such as cleaning, maintenance, security and alarm systems
- **Verbal and numerical ability** to prepare contracts and reports
- **Clerical perception** to ensure that terms of lease and rental agreements are met
- **Methodical interest** in **compiling** and maintaining records on expenses and income; in reviewing rents to ensure they are at market value; and in monitoring progress and cost of repairs, maintenance and renovations
- **Directive interest** in co-ordinating repairs, maintenance and renovations and in ensuring that staff respond to calls from clients and tenants; may hire and supervise rental agents, property clerks, building superintendents and other support staff performing operational, clerical and maintenance duties
- **Social interest** in **speaking** with contractors providing property services, and in negotiating rental and lease of properties

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
4+, 5+
- Completion of secondary school is required.
 - Completion of training courses or vocational program in property management or real estate may be required.
 - Several years of administrative experience as a property clerk, contract clerk, or administrative officer are usually required.

Workplaces/Employers

- Governments
- Property development companies
- Property management companies
- Real estate management companies

Similar Occupations Classified Elsewhere

- Building superintendents (in 6663 *Janitors, Caretakers and Building Superintendents*)
- Property clerks (in 1441 *Administrative Clerks*)
- Real Estate Agents and Salespersons* (6232)

1225 Purchasing Agents and Officers

Purchasing agents and officers purchase general and specialized equipment, materials and business services for their establishments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

MDs

DATA PEOPLE THINGS (DPT)

318

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, R

Examples of Job Titles

contract management officer
contracts officer
materiel management officer
procurement officer
purchaser, furniture and furnishings
purchasing agent
purchasing officer
supply officer, government

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess the requirements of establishments and to purchase general and specialized equipment, materials and business services
- **Verbal and numerical ability** to invite tenders, consult with suppliers and review quotations
- **Spatial and form perception** to develop specifications for equipment, materials and supplies
- **Methodical interest in compiling** information to establish delivery schedules and to monitor progress
- **Directive interest in negotiating** or determining contract terms and conditions and in awarding supplier contracts or recommending contract awards; may hire, train and supervise purchasing clerks
- **Social interest** in contacting clients and suppliers to resolve problems

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
6, 7, R
- A bachelor's degree or college diploma in business administration, commerce or economics is usually required.
 - Purchasing agents and officers purchasing specialized materials or business services may require a related university degree or college diploma. For example, a bachelor's degree or college diploma in engineering may be required for purchasers of industrial products.
 - A certificate in purchasing from the Purchasing Management Association of Canada may be required.
 - Previous experience as a purchasing clerk or as an administrative clerk may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

- Purchasing and Inventory Clerks (1474)*
- Purchasing Managers (0113)*
- Retail and Wholesale Buyers (6233)*

Remarks

Purchasing agents and officers may specialize in the purchase of particular materials or business services such as furniture or office equipment.

1226 Conference and Event Planners

Conference and event planners plan, organize and co-ordinate conferences, conventions, meetings, seminars, exhibitions, trade shows, festivals and other events.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	4	3	4	4	4

INTERESTS

DSI

DATA PEOPLE THINGS (DPT)

168

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 6+, 7+, R

Examples of Job Titles

conference and meeting planner
conference planner
conference services officer
convention co-ordinator
event planner
festival organizer
meeting planner
special events organizer
trade show planner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and organize conferences, trade shows and other events and to review administrative procedures and progress of events
- **Verbal ability** to prepare reports, programs and promotional material
- **Numerical ability and clerical perception** to establish and monitor budgets, to review final billing submitted to clients for events and to maintain financial records
- **Directive interest in co-ordinating** services such as accommodation, transportation, conference halls and other facilities, catering, signage, displays, translation, special needs requirements, audio-visual equipment, printing and security; in organizing registration of participants; in approving suppliers' invoices; in ensuring compliance with required by-laws; and in hiring, training and supervising support staff
- **Social interest in speaking** with trade and professional associations and other groups to promote and discuss conference, convention and trade show services and to negotiate contracts for services; and in meeting with sponsors and organizing committees to plan scope and format of events
- **Innovative interest** in planning entertainment and social gatherings for participants and in publicizing events

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4+, 6+, 7+, R

- A university degree or college diploma in business, tourism or hospitality administration is usually required.
- Several years of experience in hospitality or tourism administration or in public relations are usually required and may replace formal education requirements.
- Certification relating to special events, meetings or conference management may be required.

Workplaces/Employers

Conference and event planning companies
Conference centres
Convention centres
Governments
Professional associations
Tourism associations
Trade associations

Similar Occupations Classified Elsewhere

Administrative Officers (1221)

Executive Assistants (1222)

Professional Occupations in Public Relations and Communications (5124)

Sales Representatives – Wholesale Trade (Non-Technical) (6411)

1227.1 Court Officers

Court officers co-ordinate the administrative and procedural functions of federal, provincial and territorial courts such as scheduling trials and overseeing the maintenance of court records.

Profile Summary										Examples of Job Titles									
APTITUDES										administrator of the court clerk of the court commissioner of affidavits commissioner of marriages co-ordinator of court services court administrator court clerk supervisor court officer court registrar deputy registrar judicial administrator judicial court administrator judicial officer manager, court services registrar in bankruptcy Supreme Court registrar trial co-ordinator									
G	V	N	S	P	Q	K	F	M											
3	3	3	4	4	3	4	4	4											
INTERESTS																			
Mds																			
DATA PEOPLE THINGS (DPT)																			
168																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	0	2	1	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
6+, 7+																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to co-ordinate administrative services and establish work priorities for court staff
- **Verbal ability** to record court commencements, trial proceedings and judgements
- **Numerical ability and clerical perception** to assist in preparing annual budgets, and to collect and record sheriff fees, transcription fees and other court administrative and service fees
- **Methodical interest** in co-ordinating information to schedule court trials
- **Directive interest** in overseeing the maintenance of judicial court records; may be justices of the peace
- **Social interest** in speaking with individuals to arrange pre-trial conferences and hearings and to call courts of law to order, read charges and take pleas from defendants

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- Court officers usually require a university degree in law or business or public administration or a college diploma in public administration or legal studies.
- Completion of a justice registrar, justice of the peace or other court training program is required for court officers.
- Several years of experience as a court clerk or in another court service occupation are usually required.

Workplaces/Employers

Federal and provincial courts

Occupational Options

Progression to senior positions such as senior court administrator is possible through experience.

Similar Occupations Classified Elsewhere

Administrative Officers (1221)

Court Clerks (1443)

Paralegal and Related Occupations (4211)

Sheriffs and Bailiffs (6461)

1227.2 Justices of the Peace

Justices of the peace administer oaths, issue subpoenas, summonses and warrants, and perform other court-related duties such as conducting bail hearings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

Mds

DATA PEOPLE THINGS (DPT)

568

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+

Examples of Job Titles

justice of the peace

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply specialized knowledge of legal principles required to perform court-related duties
- **Verbal ability** to issue subpoenas, summonses and warrants including search warrants
- **Methodical interest in copying** information to receive affidavits, declarations and affirmations, to administer oaths and to perform civil marriages
- **Directive interest** in conducting bail hearings, in releasing defendants on judges' orders and in hearing evidence at trials on summary conviction offences; may preside over trials of criminal offences at the discretion of the chief judge of the jurisdiction or as provided for in federal, provincial or territorial statutes
- **Social interest in speaking** with individuals to explain rights and obligations

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+

- Completion of a justice registrar, justice of the peace or other court training program is required for justices of the peace.
- Several years of experience as a court clerk or in another court service occupation are usually required.
- Justices of the peace in the provinces are appointed by lieutenant governors-in-council and, in the territories, by federally appointed territorial commissioners.

Workplaces/Employers

Federal and provincial courts

Occupational Options

Progression to senior positions such as senior court administrator is possible through experience.

Similar Occupations Classified Elsewhere

*Administrative Officers (1221)**Court Clerks (1443)**Paralegal and Related Occupations (4211)**Sheriffs and Bailiffs (6461)*

Remarks

The duties and responsibilities of justices of the peace vary significantly depending on the level of their authority. They may be employed part-time on a fee-for-service basis in small communities. Their duties range from receiving affidavits and similar documents, to presiding in courts and hearing and determining prosecutions under provincial/territorial and federal laws.

1228.1 Immigration Officers

Immigration officers administer and enforce laws and regulations related to immigration.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	2	4	4	4

INTERESTS

MDS

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

immigration agent
immigration examining officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine admissibility of persons seeking entry into Canada
- **Verbal ability** to conduct interviews and seek authorization from receiving countries in deportation cases
- **Clerical perception** to examine documents
- **Methodical interest in analyzing** information to determine admissibility; and in locating and apprehending persons presumed to be infringing on immigration laws and in securing necessary travel documents for deported people
- **Directive interest** in granting landed-immigrant status, in admitting persons and in ordering detentions and deportations
- **Social interest in speaking** as witnesses appearing in cases related to immigration appeals

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- A bachelor's degree or college diploma is usually required.
- Several years of related administrative or regulatory experience may be required.
- Completion of a specialized government training program is required.

Workplaces/Employers

Government agencies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Managers responsible for immigration (in 0411 *Government Managers – Health and Social Policy Development and Program Administration*)

Social Policy Researchers, Consultants and Program Officers (4164)

1228.2 Employment Insurance Officers

Employment insurance officers administer and enforce laws and regulations related to employment insurance.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	2	4	4	4

INTERESTS

MDS

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

employment insurance agent
employment insurance officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine the eligibility of persons applying for employment insurance benefits
- **Verbal ability** to conduct interviews
- **Numerical ability** and **clerical perception** to monitor payments of benefits throughout the duration of claims and to examine documents
- **Methodical interest** in **analyzing** information to determine eligibility of claims; and in applying employment insurance policies and procedures
- **Directive interest** in investigating cases of possible fraud or abuse
- **Social interest** in **speaking** with claimants to ascertain reasons for loss of employment and availability for work

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
6+, 7+
- A bachelor's degree or college diploma is usually required.
 - Several years of related administrative or regulatory experience may be required.
 - Completion of a specialized government training program is required.

Workplaces/Employers

Government agencies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Financial Auditors and Accountants (1111)

Managers responsible for employment insurance (in 0411 *Government Managers – Health and Social Policy Development and Program Administration*)

Other Financial Officers (1114)

Social Policy Researchers, Consultants and Program Officers (4164)

1228.3 Customs Officers and Inspectors

Customs officers and inspectors administer and enforce laws and regulations related to customs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	3	3	4	4	3

INTERESTS

MDO

DATA PEOPLE THINGS (DPT)

267

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

customs inspector

customs officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to observe fabrication of articles affected by customs laws and to conduct appraisals
- **Verbal and numerical ability** to question persons at border points and to assess duties
- **Form perception** to detect undeclared merchandise and contraband
- **Manual dexterity** to inspect baggage and goods imported by mail
- **Methodical interest in speaking** with manufacturers and shippers regarding customs laws and procedures; and in ensuring that cargo complies with customs and commerce laws
- **Directive interest in analyzing** information to determine admissibility of goods; and in boarding carriers arriving from foreign countries to determine nature of cargo; may arrest and detain individuals suspected of having committed a criminal offence under the *Customs Act* or certain other designated Criminal Code offences until police intervention is possible
- **Objective interest in handling** items such as baggage for purposes of inspection

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

L3 Outside

Employment Requirements

Education/Training

6+, 7+

- A bachelor's degree or college diploma is usually required.
- Several years of related administrative or regulatory experience may be required.
- Completion of a specialized government training program is required.

Workplaces/Employers

Government agencies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Managers responsible for immigration (in 0411 *Government Managers – Health and Social Policy Development and Program Administration*)

Managers responsible for taxation revenue or customs (in 0412 *Government Managers – Economic Analysis, Policy Development and Program Administration*)

1228.4 Excise Tax Revenue Officers

Excise tax revenue officers administer and enforce laws and regulations related to tax revenue.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	3	2	4	4	3

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

- revenue officer
- tax collection officer
- tax enforcement officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine accounting systems and internal controls of organizations
- **Verbal ability** to prepare briefs and charges for court cases
- **Numerical ability** and **clerical perception** to audit accounting records to determine income, exemptions, payable taxes and existence of fraud
- **Methodical interest** in **analyzing** information from accounting records to determine compliance with reporting regulations
- **Innovative interest** in assisting with searches and seizures of records
- **Directive interest** in **speaking** with people to provide advice on reporting and measurement procedures for goods subject to taxation

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- A bachelor's degree or college diploma is usually required.
- Several years of related administrative or regulatory experience may be required.
- Completion of a specialized government training program is required.

Workplaces/Employers

Government agencies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Financial Auditors and Accountants (1111)

Managers responsible for employment insurance (in 0411 *Government Managers – Health and Social Policy Development and Program Administration*)

Managers responsible for taxation revenue or customs (in 0412 *Government Managers – Economic Analysis, Policy Development and Program Administration*)

Other Financial Officers (1114)

1231 Bookkeepers

Bookkeepers maintain complete sets of books, keep records of accounts, verify the procedures used for recording financial transactions and provide personal bookkeeping services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	2	4	4	2	3	3	4

INTERESTS

MDi

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 5, 6

Examples of Job Titles

accounting bookkeeper
bookkeeper

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to keep financial records and establish, maintain and balance accounts
- **Verbal ability** to prepare statistical, financial and accounting reports
- **Numerical ability** to calculate and prepare cheques for payrolls and for utility, tax and other bills, as well as to prepare financial statements
- **Clerical perception** to post journal entries, reconcile accounts, prepare trial balance of books and maintain general ledgers
- **Methodical interest** in compiling information to complete and submit tax remittance forms, workers' compensation forms, pension contribution forms and government documents
- **Directive interest** in keeping records of accounts and in verifying financial recording procedures by **operating** manual and computerized bookkeeping systems
- **Innovative interest** in preparing tax returns and providing other personal bookkeeping services

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+, 5, 6

- Completion of secondary school is required.
- Completion of a college program in accounting, bookkeeping or a related field
or
completion of two years (first level) of a recognized professional accounting program (e.g., Chartered Accounting, Certified General Accounting)
or
courses in accounting or bookkeeping combined with several years of experience as a financial or accounting clerk are required.

Workplaces/Employers

Establishments throughout the private and public sectors

Self-employment

Occupational Options

Progression to professional accounting occupations is possible with additional training.

Similar Occupations Classified Elsewhere

Accounting and Related Clerks (1431)

Banking, Insurance and Other Financial Clerks (1434)

Financial Auditors and Accountants (1111)

Payroll Clerks (1432)

1232 Loan Officers

Loan officers examine, evaluate and process credit and loan applications.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	4	4	2	4	4	4

INTERESTS

MSd

DATA PEOPLE THINGS (DPT)

368

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+

Examples of Job Titles

credit officer

loan officer

mortgage officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and numerical ability** to research and evaluate the financial status, references and credit of loan applicants and their ability to repay loans
- **Verbal ability** to interview applicants for personal, mortgage, student and business loans
- **Clerical perception** to perceive detail in verbal and tabular material in order to review and update credit and loan files
- **Methodical interest in compiling** information to complete credit and loan documents, to prepare statements on delinquent accounts and to forward irreconcilable accounts for collection
- **Social interest in speaking** with people to promote the sale of credit and loan services
- **Directive interest** in submitting credit and loan applications to management with recommendations for approval or rejection; and in approving and rejecting applications within authorized limits ensuring that credit standards of the institution are respected

Physical Activities

- Vision**
2 Near vision
- Colour Discrimination**
0 Not relevant
- Hearing**
2 Verbal interaction
- Body Position**
1 Sitting
- Limb Co-ordination**
1 Upper limb co-ordination
- Strength**
1 Limited

Environmental Conditions

- Location**
L1 Regulated inside climate

Employment Requirements

- Education/Training
5+, 6+, 7+
- Completion of secondary school and extensive general banking experience
or
a bachelor's degree or college diploma related to commerce or economics is required.
 - Completion of a loan or credit training program, ranging from six to twelve months, is usually required.

Workplaces/Employers

- Banks
Credit unions
Financial institutions
Trust companies

Occupational Options

Progression to credit and loan management positions is possible with experience.

Similar Occupations Classified Elsewhere

Credit and loan managers (in 0122 *Banking, Credit and Other Investment Managers*)

1233.1 Insurance Adjusters

Insurance adjusters investigate insurance claims and determine the amount of loss and damage covered by insurance policies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MSd

DATA PEOPLE THINGS (DPT)

218

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

adjuster
insurance adjuster

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to investigate circumstances surrounding insurance claims to determine validity
- **Verbal ability** to take statements and consult with claimants, accident witnesses, doctors and other individuals
- **Numerical ability** and **clerical perception** to determine the amount of loss and damage covered by insurance policies and to prepare adjustment reports
- **Methodical interest** in analyzing information when inspecting automobile, home and other property damage and when examining records and reports
- **Social interest** in negotiating the settlement of claims
- **Directive interest** in recommending settlements or legal action

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Completion of secondary school is required.
- A bachelor's degree, college diploma or some post-secondary education *or* several years of experience as a clerk in the claims department or other general insurance experience are required.
- Several years of on-the-job training and completion of insurance industry courses and training programs are required.
- Independent adjusters require a provincial licence issued by the Superintendent of Insurance in the province or territory of employment.

Workplaces/Employers

Independent adjusting companies

Insurance companies

Occupational Options

Completion of educational programs through the Insurance Institute of Canada or its provincial counterparts entitles insurance adjusters to professional recognition as a Chartered Insurance Professional (CIP), and with additional university courses, as a Fellow Chartered Insurance Professional (FCIP).

Similar Occupations Classified Elsewhere

Supervisors, Finance and Insurance Clerks (1212)

1233.2 Insurance Claims Examiners

Insurance claims examiners examine claims investigated by insurance adjusters and authorize payments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

Mds

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

claims examiner
claims representative

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to ensure claims are valid and settled according to company practices and procedures
- **Verbal ability** to consult lawyers, doctors and other individuals to discuss claims
- **Numerical ability** and **clerical perception** to calculate claims and to examine adjusters' reports, similar claims and precedents in order to determine extent of insurance coverage
- **Methodical interest** in **analyzing** information to review, examine and calculate claims investigated by insurance adjusters
- **Directive interest** in authorizing claims investigated by insurance adjusters; and in approving automobile, fire, life, disability, dental and other claims
- **Social interest** in **speaking** with people to discuss claims

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Completion of secondary school is required.
- A bachelor's degree, college diploma or some post-secondary education *or* several years of experience as a clerk in the claims department or other general insurance experience are required.
- Several years of on-the-job training and completion of insurance industry courses and training programs are required.

Workplaces/Employers

Branches of insurance companies

Head offices of insurance companies

Occupational Options

Completion of educational programs through the Insurance Institute of Canada or its provincial counterparts entitles insurance claims examiners to professional recognition as a Chartered Insurance Professional (CIP), and with additional university courses, as a Fellow Chartered Insurance Professional (FCIP).

Similar Occupations Classified Elsewhere

Supervisors, Finance and Insurance Clerks (1212)

1234 Insurance Underwriters

Insurance underwriters review and evaluate insurance applications to determine risks, premiums and coverage according to company policies.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	2	4	3	2	4	4	4
INTERESTS								
MSd								
DATA PEOPLE THINGS (DPT)								
168								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	1	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
5+, 6+, 7+								

Examples of Job Titles

group underwriter
insurance underwriter
liability underwriter
property underwriter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to evaluate new and renewal insurance applications to determine risks, premiums, coverage and other conditions of insurance contracts
- **Verbal ability** to provide recommendations on the design of individual and group insurance plans and to prepare underwriting reports and update insurance forms when necessary
- **Numerical ability** and **clerical perception** to use medical reports, rate tables, reference materials and other documents
- **Methodical interest** in **co-ordinating** information to review individual and group applications for automobile, fire, health, liability, life, property, marine, aircraft and other insurance, to ensure compliance with government regulations, and to adjust premiums, coverage or risk itself for acceptance of new and renewal applications
- **Social interest** in **speaking** with clients, insurance agents, consultants and other company personnel to provide underwriting advice and answer inquiries
- **Directive interest** in approving the sale of insurance policies

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction
- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 5+, 6+, 7+
- Completion of secondary school and some general insurance experience or a bachelor's degree, college diploma or some post-secondary education is required.
 - Several years of on-the-job training and completion of insurance industry underwriting courses and training programs are required.

Workplaces/Employers

- Branches of insurance companies
- Head offices of insurance companies

Occupational Options

- Progression to management positions, such as underwriter manager, is possible with experience.
- Completion of educational programs through the Insurance Institute of Canada or its provincial counterparts entitles insurance underwriters to professional recognition as a Chartered Insurance Professional (CIP), and with additional university courses, as a Fellow Chartered Insurance Professional (FCIP).

Similar Occupations Classified Elsewhere

- Insurance Agents and Brokers* (6231)
- Insurance managers (in 0121 *Insurance, Real Estate and Financial Brokerage Managers*)

1235.1 Assessors

Assessors determine the value of land, businesses, estates and other real property for purposes of sale, purchase, taxation and disposal of assets.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	3	3	3	4	4	4

INTERESTS

Mds

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6, R

Examples of Job Titles

property assessor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess, before sale or purchase, the value of land, buildings, structures, machinery, equipment and property improvements for purposes of taxation, grants and regional planning
- **Verbal ability** to defend assessments in court, if appealed, and to read manuals to assess the taxable value of properties
- **Numerical ability** to estimate replacement costs of properties, depreciation allowances, selling prices of similar properties and income capitalization of commercial and industrial properties
- **Spatial, form and clerical perception** to measure and record dimensions of buildings and properties, to examine plans to determine dimensions and to review data
- **Methodical interest in analyzing** data such as past sales, title searches, engineering and alignment maps, soil maps, subdivision plans, water and sewer plans, location costs and easements
- **Directive interest** in advising people on the value of land, buildings, structures, machinery, equipment and property improvements for purposes of sale, purchase, taxation and disposal of assets
- **Social interest in speaking** with ratepayers to explain assessment process

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6, R

- Assessors require a college diploma in municipal assessment and accreditation with the municipal assessment association of the province.

Workplaces/Employers

Government agencies
Private sector organizations
Real estate firms
Self-employment

Occupational Options

Progression to management positions is possible with experience.

Similar Occupations Classified Elsewhere

Financial and Investment Analysts
(1112)

Financial Auditors and Accountants
(1111)

Insurance Adjusters and Claims Examiners (1233)

Market analysts (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Property Administrators (1224)

Right-of-way agents (in 1225 *Purchasing Agents and Officers*)

Remarks

Assessors may specialize in advising and consulting in a specific field of assessment such as residential, commercial, industrial, institutional or farm lands.

1235.2 Valuators

Valuators determine the value of businesses, estates and other real property for purposes of sale, purchase, taxation and disposal of assets.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	3	3	3	4	4	4

INTERESTS

Mds

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

business valuator

property valuator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess the value of properties, personal and other articles, and the competitiveness of businesses for purposes of purchase, sale, taxation and disposal of assets
- **Verbal ability** to prepare reports for estate planning, matrimonial litigation, insurance and business losses, as well as to appear as an expert witness before courts, security regulators and other regulatory boards and commissions
- **Numerical ability** and **clerical perception** to review financial records and data, to compute depreciation, repair and replacement costs of items and to estimate market value of businesses
- **Spatial** and **form perception** to examine the condition of personal and household effects, merchandise and other articles to determine their value
- **Methodical interest** in **analyzing** data collected from financial records of businesses such as financial statements, budgets, projections and sales data
- **Directive interest** in conducting research on current market values and trends and on industry to assess businesses in relation to competitors
- **Social interest** in **speaking** with senior management of businesses to obtain data and additional information on financial status

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- Valuators usually require a bachelor's degree or college diploma in accounting, business or commerce and accreditation with the Canadian Institute of Chartered Business Valuators based on successful completion of its business and securities valuation program.

Workplaces/Employers

Government agencies

Private sector organizations

Real estate firms

Self-employment

Occupational Options

Progression to management positions is possible with experience.

Similar Occupations Classified Elsewhere

Financial and Investment Analysts
(1112)

Financial Auditors and Accountants
(1111)

Insurance Adjusters and Claims Examiners (1233)

Market analysts (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Property Administrators (1224)

Right-of-way agents (in 1225 *Purchasing Agents and Officers*)

1235.3 Appraisers

Appraisers determine the value of land, businesses, estates and other real property for purposes of sale, purchase, taxation or disposal of assets. Appraisers also determine the value of personal and household items.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	3	3	3	4	4	4

INTERESTS

Mds

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

4+, 5+, 6+, R

Examples of Job Titles

real estate appraiser

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to appraise value of properties, buildings, industrial and commercial machinery and equipment, and personal and household items
- **Verbal ability** to prepare appraisal reports for lending agencies, insurance companies, government departments, courts, attorneys, creditors, buyers and auctioneers
- **Numerical ability** and **clerical perception** to review financial data and other information to compute depreciation and replacement costs and to estimate value of properties for purchase, sale, investment, mortgage and loan purposes
- **Spatial** and **form perception** to inspect properties for construction, condition and functional design, as well as to take measurements
- **Methodical interest** in **analyzing** information for appraisal purposes when searching public records of sales, leases, assessments and other transactions
- **Directive interest** in submitting reports to corroborate appraised value of properties and in determining future values based on study of location, trends, impending changes and other potential influences
- **Social interest** in **speaking** with people to collect data and information used when appraising value of properties

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Employment Requirements

Education/Training

4+, 5+, 6+, R

- Appraisers require a college diploma or vocational training in the field of appraisal
or
several years of experience in a position related to the field of appraisal.
- Real estate appraisers usually require several years of experience as a real estate agent, right-of-way agent or property administrator and may require Canadian residential appraiser certification.
- Appraisers of residential, commercial or industrial property require accreditation with the Appraisal Institute of Canada.

Workplaces/Employers

Government agencies
Private sector organizations
Real estate firms
Self-employment

Occupational Options

Progression to management positions is possible with experience.

Similar Occupations Classified Elsewhere

Financial and Investment Analysts
(1112)

Financial Auditors and Accountants
(1111)

Insurance Adjusters and Claims Examiners (1233)

Market analysts (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Property Administrators (1224)

Right-of-way agents (in 1225 *Purchasing Agents and Officers*)

Remarks

Appraisers may specialize in a specific type of appraisal such as real estate appraisal.

1236.1 Customs Brokers

Customs brokers clear goods through customs and to their destinations on behalf of importers and exporters.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

MSd

DATA PEOPLE THINGS (DPT)

168

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, R

Examples of Job Titles

customs broker
gas broker
licensed customs broker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to prepare and process import/export documents and other forms on behalf of clients according to customs regulations, laws and procedures
- **Verbal ability** to advise clients on export and import restrictions, tariff systems, letters of credit, insurance requirements and other customs-related matters; may represent clients before administrative tribunals and in other dealings with government officials
- **Methodical interest** in **co-ordinating** information to arrange for payment of duties, taxes, storage and transportation of imported goods, and of bonds to cover duty goods
- **Social interest** in **speaking** with people to quote duty and tax rates on commodities
- **Directive interest** in signing import/export documents on behalf of clients, using power of attorney

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+, R

- Completion of secondary school is required.
- Some post-secondary education in commerce or a related field may be required.
- Customs brokers require several years of on-the-job training and completion of a customs brokers training program through the Canadian Institute of Customs Brokers.
- A customs broker licence, issued by the Canada Customs and Revenue Agency, is required for an individual or company to operate a customs brokerage business.

Workplaces/Employers

Brokerage establishments

Customs brokerages

Self-employment

Occupational Options

There is no mobility among the different types of brokers in the 1236 group.

Similar Occupations Classified Elsewhere

Insurance brokers (in 6231 *Insurance Agents and Brokers*)

Insurance, Real Estate and Financial Brokerage Managers (0121)

Securities Agents, Investment Dealers and Brokers (1113)

Remarks

The 1236 group also includes other brokers, not elsewhere classified, who negotiate commercial transactions or other services between parties on behalf of clients.

1236.2 Ship Brokers

Ship brokers buy and sell cargo space on ships and buy and sell ships, yachts and other watercraft on behalf of clients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

MSd

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

4+, 5+, 6+

Examples of Job Titles

cargo broker
chartered ship broker
ship broker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to buy and sell cargo space on ships on behalf of individuals, companies and governments and to inspect, buy and sell ships, yachts and other watercraft on behalf of clients
- **Verbal ability** to show and explain features of ships and yachts when purchasing and selling for clients, to consult trade publications and other sources to provide information to clients on available cargo space, destinations, rates and departure locations and times, and to arrange ship charters for clients
- **Numerical ability** and **clerical perception** to prepare contracts and other papers to complete sales transactions
- **Methodical interest** in **co-ordinating** information to arrange for insurance coverage for cargo and ships, as well as to arrange for registration and licensing of ships
- **Social interest** in **negotiating** rates, terms and prices when purchasing and selling for clients
- **Directive interest** in buying and selling cargo space, ships, yachts and other watercraft

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
4+, 5+, 6+

- Completion of secondary school is required.
- Some post-secondary education in commerce or a related field may be required.
- Ship brokers selling cargo space on ships usually require several years of on-the-job training or related experience such as shipping company scheduling experience. Ship brokers selling watercraft usually require in-depth experience with and knowledge of various watercraft.
- Correspondence courses from the Institute of Chartered Ship Brokers are available for ship brokers.

Workplaces/Employers

Self-employment
Ship or other brokerage establishments

Occupational Options

There is no mobility among the different types of brokers in the 1236 group.

Similar Occupations Classified Elsewhere

Insurance brokers (in 6231 *Insurance Agents and Brokers*)

Insurance, Real Estate and Financial Brokerage Managers (0121)

Securities Agents, Investment Dealers and Brokers (1113)

1241 Secretaries (Except Legal and Medical)

Secretaries perform administrative duties in support of managerial and professional employers.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	3	2	3	3	3

INTERESTS

S0d

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

executive secretary
private secretary
secretary
technical secretary

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to set up and maintain manual and computerized information filing systems and to determine and establish office procedures; may conduct research
- **Verbal ability** to prepare correspondence, and edit and proofread reports, publications and related material
- **Form and clerical perception** to read shorthand, to record and prepare minutes of meetings and to observe details when arranging travel schedules and making reservations
- **Motor co-ordination and finger and manual dexterity** to key in correspondence, invoices, presentations, brochures, publications, reports and related material from shorthand, machine dictation and handwritten copy
- **Social interest in speaking** with people to schedule and confirm appointments and meetings for employers, to greet visitors, to determine the nature of visitors' business, to direct visitors to employers or appropriate persons, and to answer telephone and electronic questions and relay telephone calls and messages
- **Objective interest in operating** computers and other office equipment; may train staff in use of current software, word processors and typewriters
- **Directive interest in compiling** information to distribute mail and other material, to co-ordinate the flow of information, internally and with other departments and organizations; and to order office supplies and maintain inventory; may supervise and train other staff; may organize conferences; and may compile data, statistics and other information

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 4, 5, 6

- Completion of secondary school is usually required.
- Completion of a one- or two-year college or other program for secretaries
or
previous clerical experience is required.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

Court Recorders and Medical Transcriptionists (1244)

Executive Assistants (1222)

Legal Secretaries (1242)

Medical Secretaries (1243)

Office managers (in 1221 *Administrative Officers*)

1242 Legal Secretaries

Legal secretaries perform administrative duties in support of employers in the legal field.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	3	2	3	3	3

INTERESTS

MOd

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6

Examples of Job Titles

legal secretary
litigation secretary
real estate secretary

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to set up filing systems using knowledge of legal records and procedures, to control confidential materials and documents, and to determine and establish office procedures and routines
- **Verbal and numerical ability** to prepare and review correspondence, legal documents and financial statements
- **Form and clerical perception** to read shorthand and to proofread documents and correspondence; may attend court, meetings and conferences to take notes, minutes and dictation
- **Motor co-ordination and finger and manual dexterity** to prepare and key in correspondence and legal documents such as deeds, wills, affidavits and briefs from handwritten copy, shorthand and machine dictation
- **Methodical interest in compiling** information to maintain filing systems; and in reviewing documents and correspondence to ensure that they comply with legal procedures and grammatical usage
- **Objective interest in operating** computers, and other office equipment; may train other staff in the use of current software
- **Directive interest in speaking** with people to schedule employers' appointments, meetings and conferences; in opening and distributing regular and electronic mail and other materials; and in co-ordinating the flow of information internally and with other departments and organizations; may supervise other staff in procedures

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction
- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 5, 6
- Completion of secondary school is usually required.
 - Completion of a one- or two-year college or other program for secretaries or legal secretaries is usually required.

Workplaces/Employers

- Land title office
- Law office
- Legal departments of large firms
- Municipal, provincial and federal courts and governments
- Real estate companies

Similar Occupations Classified Elsewhere

- By-law clerks (in 1441 *Administrative Clerks*)
- Court recorders (in 1244 *Court Recorders and Medical Transcriptionists*)
- Paralegal and Related Occupations* (4211)

1243 Medical Secretaries

Medical secretaries perform administrative duties in support of employers in the medical field.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	3	2	3	3	3

INTERESTS

S0d

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

medical secretary

ward secretary

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to establish confidential medical files and records and to determine and establish office procedures and routines
- **Verbal and numerical ability** to prepare correspondence and financial statements and to handle billing procedures
- **Form and clerical perception** to read shorthand and to complete forms and documents
- **Motor co-ordination and finger and manual dexterity** to prepare, key in, edit, and proofread medical records, reports, articles, case histories and correspondence from machine dictation, shorthand and handwritten notes
- **Social interest in speaking** with people to schedule and confirm medical appointments, to receive and communicate messages for medical staff and patients, and to interview patients
- **Objective interest in operating** computers and other office equipment; may train other staff in procedures and in use of current software
- **Directive interest in compiling** information to complete documents, case histories and insurance and other claim forms, to maintain confidential medical files and records, and to order supplies and maintain inventory; may supervise other staff

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

4, 5, 6

- Completion of secondary school is usually required.
- Completion of a one- or two-year college program or other specialized courses for secretaries or medical secretaries is usually required.

Workplaces/Employers

Doctors' offices

Hospitals

Medical clinics

Various medical settings

Similar Occupations Classified Elsewhere

Medical records clerks (in 1413 *Records Management and Filing Clerks*)

Medical transcriptionists (in 1244 *Court Recorders and Medical Transcriptionists*)

1244.1 Court Recorders

Court recorders set down and transcribe verbatim the proceedings of courts, legislative assemblies and committees, and prepare dictated reports, correspondence and statistics that require knowledge of legal terms.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	4	4	4	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

court recorder
court reporter
court stenographer
Hansard reporter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to prepare dictated reports, correspondence and statistics with legal terms
- **Clerical perception** to verify transcripts by checking copy against original records of proceedings; and to file and store shorthand notes of court sessions
- **Motor co-ordination** and **finger** and **manual dexterity** to record verbatim proceedings of courtroom
- **Methodical interest** in **copying** information to transcribe recorded proceedings in accordance with established formats; in responding to requests during court sessions to read back verbatim evidence, in responding to requests for transcripts ordered by judges, lawyers or the public, and in verifying accuracy of rulings by checking with judge
- **Objective interest** in **operating** computerized recording equipment, electronic stenograph machines or stenomask
- **Innovative interest** to research and locate quotes to ensure accuracy

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5, 6, R

- Completion of secondary school is required.
- Completion of a college or other program in court reporting is required.
- Chartered Shorthand Reporter (CSR) certificate may be required.

Workplaces/Employers

Courts of law

Federal legislative assemblies and committees

Provincial legislative assemblies and committees

Self-employment

Occupational Options

There is some mobility among occupations in the 1244 group and other occupations requiring similar knowledge of legal terminology such as legal secretary.

Similar Occupations Classified Elsewhere

Legal Secretaries (1242)

Medical Secretaries (1243)

1244.2 Medical Transcriptionists

Medical transcriptionists record and transcribe surgical proceedings, medical records and other reports requiring knowledge of medical terms.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	3	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

medical transcriptionist
transcriptionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to transcribe dictated reports and correspondence with medical terms
- **Form perception** to read rough notes and take shorthand
- **Clerical perception** to proofread work for typographical and grammatical errors
- **Motor co-ordination** and **finger and manual dexterity** to record information
- **Methodical interest** in **copying** to transcribe machine dictation or rough notes from medical reports, correspondence, medical records and patient information
- **Objective interest** in **operating** office equipment to record and transcribe surgical proceedings, medical records and other reports
- **Innovative interest** to research the accuracy of transcribed information

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

5, 6, R

- Completion of secondary school is required.
- Completion of a college or other program in medical transcription is required.
- Certified Medical Transcriptionist (CMT) certificate may be required.

Workplaces/Employers

Doctors' offices

Hospitals

Medical clinics

Self-employment

Occupational Options

There is some mobility among occupations in the 1244 group and other occupations requiring similar knowledge of medical terminology such as medical secretary.

Similar Occupations Classified Elsewhere

Legal Secretaries (1242)

Medical Secretaries (1243)

1411 General Office Clerks

General office clerks prepare correspondence, reports, statements and other material, operate office equipment, answer telephones and perform clerical duties of a general nature according to established procedures.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4

Examples of Job Titles

- general office clerk
- office assistant
- office clerk
- typist
- word processor operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to perform clerical duties; may process applications, receipts, expenditures, forms and other documents, and may perform bookkeeping tasks such as preparing invoices and bank deposits
- **Verbal ability** to respond to telephone, in person or electronic inquiries and forward to appropriate person
- **Clerical perception** to edit, proofread, and finalize correspondence, reports, statements, invoices, forms, presentations and other documents
- **Motor co-ordination and finger dexterity** to key in information from notes or dictaphone, to collate documents for distribution, mailing and filing, and to process incoming and outgoing mail and other documents, manually or electronically
- **Objective interest in operating** equipment such as computers and photocopiers; and in using fax machines and electronic mail to send and receive messages and documents; may service office equipment
- **Methodical interest in compiling** information to maintain and prepare reports from manual or electronic files, inventories, mailing lists and databases
- **Innovative interest in speaking** to clients and the public to provide general information; may verify applications, receipts, expenditures, forms and other documents; may order office supplies and arrange for servicing of major repairs

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3, 4

- Completion of secondary school is usually required.
- Completion of secondary school or college business or commercial courses is usually required.

Workplaces/Employers

Offices throughout the private and public sectors

Occupational Options

Progression to supervisory or office management positions is possible with experience.

Similar Occupations Classified Elsewhere

Administrative Clerks (1441)

Data Entry Clerks (1422)

Receptionists and Switchboard Operators (1414)

Records Management and Filing Clerks (1413)

Secretaries (Except Legal and Medical) (1241)

Supervisors, General Office and Administrative Support Clerks (1211)

1413.1 Records Management Clerks

Records management clerks process, code, store and retrieve records and documents, and follow schedules for retaining and disposing of documents and files according to established policies and procedures.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

- aircraft records clerk
- microfilm records searcher
- records classifier
- records clerk
- records filing-system clerk
- records management clerk
- technical records clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to classify, code, cross-reference and store records
- **Verbal ability** to compile reports on activities within record services
- **Clerical perception** to review files periodically to ensure that they are complete and classified
- **Motor co-ordination and finger dexterity** to use information retrieval systems
- **Methodical interest in compiling** information to maintain indexes for classification systems, to label files according to schedules for retaining and disposing of documents and files, and to maintain access lists for security-classified records; and in preparing files for disposal
- **Innovative interest in operating** information retrieval systems; and in compiling statistics
- **Directive interest** in responding to requests for records

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4, 5, 6

- Completion of secondary school is usually required.
- Records clerks may require completion of college or other program in records management and usually require experience as a file clerk.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

General Office Clerks (1411)

Health record unit supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Health records administrators (in 0114 *Other Administrative Services Managers*)

Library Clerks (1451)

Records technicians (in 5211 *Library and Archive Technicians and Assistants*)

Records management supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Records systems analysts (in 1122 *Professional Occupations in Business Services to Management*)

1413.2 File Clerks

File clerks organize papers, records, documents and other material according to subject matter or other filing system.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

687

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	3*	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

file and classification clerk

file clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to review files in order to identify subject matter and other criteria by which to file them
- **Numerical ability** to keep records of materials filed and removed
- **Innovative interest** in **handling** files to remove materials when requested and to store materials according to filing systems in drawers, cabinets and storage boxes
- **Clerical perception** to perceive detail when filing and retrieving files
- **Methodical interest** in **comparing** information to sort material according to particular filing systems
- **Directive interest** in locating files when requested and in maintaining records of materials filed and removed

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

3* Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

2 Light

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3

- Completion of secondary school is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

General Office Clerks (1411)

Health record unit supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Health records administrators (in 0114 *Other Administrative Services Managers*)

Library Clerks (1451)

Library technicians (in 5211 *Library and Archive Technicians and Assistants*)

Records management supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Records systems analysts (in 1122 *Professional Occupations in Business Services to Management*)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) may also apply.

1413.3 Health Records Technicians

Health records technicians maintain systems for the collection, storage, retrieval and retention of health information.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

health records technician
medical records clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to apply knowledge of medical terms, physiology and treatments in order to maintain health information systems
- **Numerical ability** to prepare medical, social and administrative statistics
- **Clerical perception** to review medical records for completeness
- **Motor co-ordination** and **finger dexterity** to use information retrieval systems
- **Methodical interest** in **compiling** information to classify, code, cross-reference and store health records and other information; and in maintaining indexes for classification systems
- **Innovative interest** in **operating** information retrieval systems; and in preparing medical, social and administrative statistics
- **Directive interest** in responding to requests for health record information

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5, 6, R

- Health records technicians require completion of a two- to three-year college or other program in health records management *and* certification by the Canadian Health Record Association.

Workplaces/Employers

Clinics

Health care institutions

Hospitals

Occupational Options

Health records technicians are nationally certified and are eligible for employment in all provinces and territories.

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

General Office Clerks (1411)

Health record unit supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Health records administrators (in 0114 *Other Administrative Services Managers*)

Library Clerks (1451)

Library technicians (in 5211 *Library and Archive Technicians and Assistants*)

Records management supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Records systems analysts (in 1122 *Professional Occupations in Business Services to Management*)

1414.1 Receptionists

Receptionists greet people arriving at offices, hospitals and other establishments, direct visitors to appropriate persons and services, answer and forward telephone calls, take messages, schedule appointments and perform other clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

367

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

business receptionist

reception clerk

receptionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to greet people coming into establishments and determine the appropriate contacts and services they require
- **Clerical perception** to take messages; may receive and record payments in ledgers
- **Motor co-ordination** and **finger dexterity** to answer and forward telephone calls; may operate office equipment
- **Social interest** in **speaking** to greet people and provide information in person and by phone
- **Methodical interest** in **compiling** information to schedule appointments for employers; may perform clerical duties such as filing, and collecting and distributing mail and messages; may maintain security access lists
- **Directive interest** in **handling** equipment such as telephones and computers; and in directing clients and customers to appropriate contacts and services; and may maintain front desk security

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

3

- Completion of secondary school is usually required.
- On-the-job training may be provided.

Workplaces/Employers

Offices throughout the private and public sectors

Similar Occupations Classified Elsewhere

Customer Service, Information and Related Clerks (1453)

Hotel Front Desk Clerks (6435)

Receptionist supervisors (in 1211
Supervisors, General Office and Administrative Support Clerks)

Telephone Operators (1424)

Remarks

Some receptionists are required to be bilingual or multilingual to perform their duties.

1414.2 Hospital Admitting Clerks

Hospital admitting clerks greet people arriving at hospitals and obtain information to direct them to medical service areas.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

367

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

admitting clerk
hospital admitting clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to interview patients or their representatives in order to obtain and process information required to provide hospital and medical services
- **Clerical perception** to record information accurately; may receive payment on accounts
- **Motor co-ordination and finger dexterity** to answer telephone calls and type admitting records
- **Social interest in speaking** to patients or their representatives to explain and provide written information regarding regulations such as visiting hours, payment of accounts and schedules of charges
- **Methodical interest in compiling** information to schedule appointments for examinations according to nature of illnesses; and in routing admitting records to designated departments
- **Directive interest in handling** equipment such as telephones and computers to provide general information concerning patient care; and in obtaining signed consent statements from patients for treatments and in assigning patients to rooms

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3

- Completion of secondary school is usually required.
- On-the-job training may be provided.

Workplaces/Employers

Hospitals

Similar Occupations Classified Elsewhere

Customer Service, Information and Related Clerks (1453)

Hotel Front Desk Clerks (6435)

Receptionist supervisors (in 1211 Supervisors, General Office and Administrative Support Clerks)

Telephone Operators (1424)

1414.3 Medical and Dental Receptionists

Medical and dental receptionists greet patients and direct them to appropriate services, answer and forward telephone calls, take messages, schedule appointments and perform other clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

367

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

dental receptionist
medical receptionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to greet people coming into medical and dental offices and to determine their requirements
- **Clerical perception** to receive and record payment for services
- **Motor co-ordination and finger dexterity** to answer and forward telephone calls; and to operate computerized systems
- **Methodical interest** in compiling information to maintain billing systems
- **Social interest in speaking** to arrange appointments and announce patients' arrivals
- **Directive interest** in handling equipment such as telephones and computers; in removing and arranging patients' charts and records according to daily appointment schedules; and in directing patients to examination and treatment areas

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting

Limb Co-ordination	
1	Upper limb co-ordination

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training	
3	

- Completion of secondary school is usually required.
- On-the-job training may be provided.

Workplaces/Employers

Clinics
Hospitals
Medical and dental offices

Similar Occupations Classified Elsewhere

Customer Service, Information and Related Clerks (1453)

Hotel Front Desk Clerks (6435)

Receptionist supervisors (in 1211 Supervisors, General Office and Administrative Support Clerks)

Telephone Operators (1424)

Remarks

Some receptionists are required to be bilingual or multilingual to perform their duties.

1414.4 Switchboard Operators

Switchboard operators answer and forward telephone calls, take messages, schedule appointments and perform other clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

564

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

switchboard operator
telereceptionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to relay incoming, outgoing and inter-office calls
- **Clerical perception** to record messages
- **Motor co-ordination** and **finger dexterity** to use telephone systems and switchboards; may operate computers
- **Methodical interest** in **copying** information to take messages; may keep records of calls placed and toll charges
- **Social interest** in **speaking** to provide information
- **Directive interest** in **operating** telephone systems and switchboards to screen and forward telephone calls

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited
-

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

3

- Completion of secondary school is usually required.
- On-the-job training may be provided.

Workplaces/Employers

Hospitals

Offices throughout the private and public sectors

Similar Occupations Classified Elsewhere

Customer Service, Information and Related Clerks (1453)

Hotel Front Desk Clerks (6435)

Receptionist supervisors (in 1211 Supervisors, General Office and Administrative Support Clerks)

Telephone Operators (1424)

1414.5 Answering Service Operators

Answering service operators answer and forward telephone calls and take and relay messages.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

564

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

answering service operator
telereceptionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide answering services for clients
- **Verbal ability** to greet callers and provide names and phone numbers of clients' offices and establishments
- **Clerical perception** to record, date stamp and file messages
- **Motor co-ordination and finger dexterity** to use telephone switchboards to place calls at clients' requests
- **Social interest** in **speaking** to provide information, deliver messages and relay calls
- **Methodical interest** in **copying** information to record and relay messages
- **Directive interest** in **operating** telephone switchboards to locate clients in emergencies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3

- Completion of secondary school is usually required.
- On-the-job training may be provided.

Workplaces/Employers

Hospitals

Medical and dental offices

Offices throughout the private and public sectors

Similar Occupations Classified Elsewhere

Customer Service, Information and Related Clerks (1453)

Hotel Front Desk Clerks (6435)

Receptionist supervisors (in 1211 Supervisors, General Office and Administrative Support Clerks)

Telephone Operators (1424)

1414.6 Front Desk Clerks (Except Hotel)

Front desk clerks direct customers to appropriate areas in a variety of institutional and commercial settings, record bookings, handle credit card checks, receive payment, issue receipts, arrange tour reservations and deal with emergency situations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

367

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

front desk clerk (except hotel)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to greet customers and direct them to appropriate areas
- **Clerical perception** to record bookings, receive payments and issue receipts
- **Motor co-ordination** and **finger dexterity** to operate computers
- **Social interest** in **speaking** to greet customers and provide information
- **Methodical interest** in **compiling** information to arrange tour reservations
- **Directive interest** in **handling** equipment such as telephones and computers; in handling credit card checks; and in dealing with emergency situations

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

3

- Completion of secondary school is usually required.
- On-the-job training may be provided.

Workplaces/Employers

Offices throughout the private and public sectors

Similar Occupations Classified Elsewhere

Customer Service, Information and Related Clerks (1453)

Hotel Front Desk Clerks (6435)

Receptionist supervisors (in 1211 Supervisors, General Office and Administrative Support Clerks)

Telephone Operators (1424)

1422 Data Entry Clerks

Data entry clerks input coded, statistical and other information onto diskettes, disks or tapes for storage using computers and data entry consoles.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

2, 3, 4

Examples of Job Titles

- data control clerk
- data entry operator
- data input clerk
- data processor
- payment entry clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to receive and register invoices, forms, records and other documents for data capture
- **Clerical perception** to verify accuracy and completeness of data
- **Motor co-ordination** and **finger and manual dexterity** to input data using computers and data entry consoles
- **Objective interest** in **operating** equipment
- **Methodical interest** in **copying** information to input source data onto diskettes, disks and tapes for storage, to identify, label and store diskettes, disks and tapes, and to transfer data between different kinds of software; and in maintaining libraries of diskettes, disks and tapes
- **Innovative interest** in reporting equipment malfunctions

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

2, 3, 4

- Completion of secondary school may be required.
- College or other courses in data entry may be required.

Workplaces/Employers

Offices and computer centres throughout the private and public sectors

Occupational Options

Progression to senior positions is possible with experience.

Similar Occupations Classified Elsewhere

General Office Clerks (1411)

Supervisors, General Office and Administrative Support Clerks (1211)

1423.1 Desktop Publishing Operators

Desktop publishing operators run software and computer equipment to input, design, lay out and produce text that is ready to print.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

desktop compositor
desktop publishing (DTP) operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply knowledge of desktop publishing techniques to produce camera-ready master copies of publications
- **Verbal ability** to talk with editorial and graphic arts staff to clarify format and page layout requirements
- **Spatial and form perception** to select line lengths to ensure typed material fits within layout requirements, and to measure areas for illustrations and headings
- **Clerical perception** to scan video screens to monitor input, ensure accuracy and correct errors
- **Motor co-ordination and finger dexterity** to use keyboards
- **Manual dexterity** to store drafts on paper, diskette and master copies that contain texts and illustrations
- **Methodical interest in compiling** information to follow specifications for typefaces and point sizes, column widths, justifications, depth of copy on pages, headings, locations of columns and pagination; and in following design specifications using page-layout software
- **Objective interest in operating** software and equipment to design, lay out and produce camera-ready copies; may perform pre-flight operator duties
- **Innovative interest** in producing sample layouts for approval, and in creating illustrations using object-oriented graphics software

Physical Activities

Vision

2 Near vision

Colour Discrimination

1 Relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4, 5, 6

- Completion of secondary school is required.
- Completion of a college program in graphic arts, or other training in typography, computer typesetting, or desktop publishing is usually required.

Workplaces/Employers

Commercial printing companies

Firms that specialize in typesetting

In-house printing departments of private and public sector establishments

Publishing and printing companies

Occupational Options

Progression to supervisory positions is possible through experience.

Similar Occupations Classified Elsewhere

Copy stylists, mechanical artists and paste-up artists (in 5223 *Graphic Arts Technicians*)

Desktop publishing operator supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Graphic Designers and Illustrators (5241)

Proofreaders (in 1452 *Correspondence, Publication and Related Clerks*)

1423.2 Markup Persons

Markup persons mark copy with computer codes and typographic instructions before it is typeset.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

copy marker

markup person

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine manuscripts, copy and customers' specifications in order to code copy with typographical instructions to prepare material for typesetting
- **Verbal ability** to understand and use printing terms and to follow specifications
- **Spatial and form perception** to visualize styles, layouts and space requirements
- **Methodical interest in compiling** information to mark individual pages of copy with coded instructions on formatting and typesetting specifications
- **Objective interest in operating** computers to mark copy with codes and typographic instructions
- **Innovative interest** in determining type sizes, fonts and layout arrangements, and in estimating space requirements

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4, 5, 6

- Completion of secondary school is required.
- Completion of a college program in graphic arts, or other training in typography, computer typesetting, or desktop publishing is usually required.

Workplaces/Employers

Commercial printing companies
Firms that specialize in typesetting
In-house printing departments of private and public sector establishments
Publishing and printing companies

Occupational Options

Progression to supervisory positions is possible through experience.

Similar Occupations Classified Elsewhere

Copy stylists, mechanical artists and paste-up artists (in 5223 *Graphic Arts Technicians*)

Desktop publishing operator supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Graphic Designers and Illustrators (5241)

Proofreaders (in 1452 *Correspondence, Publication and Related Clerks*)

1423.3 Typesetting Input Operators

Typesetting input operators use keyboards to enter copy into typesetting systems to produce text that is ready to print.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	3	3	3	3

INTERESTS

MOi

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

Braille keyboard operator
compositor
computer typesetter
input operator – typesetting
phototypesetter operator
typesetter
typographer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the principles, operation and applications of typesetting systems and media conversion equipment
- **Verbal ability** to use and interpret printing terms and to follow oral and written instructions
- **Spatial perception** to lay out, position and align copy
- **Form perception** to read and input codes and commands
- **Clerical perception** to avoid and detect errors
- **Motor co-ordination and finger dexterity** to read from original copy while simultaneously inputting into typesetting systems
- **Methodical interest** in copying information to input copy, codes, commands and any subsequent corrections into typesetting systems
- **Objective interest** in operating equipment
- **Innovative interest** in processing and formatting copy transmitted through telecommunications

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4, 5, 6

- Completion of secondary school is required.
- Completion of a college program in graphic arts, or other training in typography, computer typesetting, or desktop publishing is usually required.

Workplaces/Employers

Commercial printing companies

Firms that specialize in typesetting

In-house printing departments of private and public sector establishments

Publishing and printing companies

Occupational Options

Progression to supervisory positions is possible through experience.

Similar Occupations Classified Elsewhere

Copy stylists, mechanical artists and paste-up artists (in 5223 *Graphic Arts Technicians*)

Desktop publishing operator supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Graphic Designers and Illustrators (5241)

Proofreaders (in 1452 *Correspondence, Publication and Related Clerks*)

1423.4 Typesetting Output Operators

Typesetting output operators run typesetting output equipment to produce text that is ready to print.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	3	3	3	3

INTERESTS

MOi

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

output operator – typesetting
typesetter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the principles and operation of typesetting output devices
- **Verbal ability** to use and interpret printing terms and to follow oral and written instructions
- **Spatial perception** to lay out, position and align copy
- **Form perception** to compare layouts against original and manuscript copies
- **Clerical perception** to avoid and detect errors
- **Motor co-ordination and finger dexterity** to load and process photosensitive materials
- **Manual dexterity** to tend equipment
- **Methodical interest** in **copying** information to produce text that is ready to print
- **Objective interest** in **operating** equipment
- **Innovative interest** in performing routine maintenance

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4, 5, 6

- Completion of secondary school is required.
- Completion of a college program in graphic arts, or other training in typography, computer typesetting, or desktop publishing is usually required.

Workplaces/Employers

Commercial printing companies
Firms that specialize in typesetting
In-house printing departments of private and public sector establishments
Publishing and printing companies

Occupational Options

Progression to supervisory positions is possible through experience.

Similar Occupations Classified Elsewhere

Copy stylists, mechanical artists and paste-up artists (in 5223 *Graphic Arts Technicians*)

Desktop publishing operator supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Graphic Designers and Illustrators (5241)

Proofreaders (in 1452 *Correspondence, Publication and Related Clerks*)

1423.5 Pre-flight Operators

Pre-flight operators use computer software to check details of print jobs to ensure that customers' files are completed according to specifications before going to print.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

684

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

pre-flight operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply knowledge of desktop publishing techniques to ensure that publications are completed according to specifications
- **Verbal ability** to understand and use printing terms and to follow specifications
- **Spatial and form perception** to evaluate composition of orders
- **Clerical perception** to confirm cost estimates and to ensure accuracy and correct errors
- **Motor co-ordination and finger dexterity** to use keyboards
- **Methodical interest** in comparing information to check fonts and other details to ensure that customers' files are completed according to specifications
- **Objective interest** in operating computer software
- **Innovative interest** in assessing graphic images

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

4, 5, 6

- Completion of secondary school is required.
- Completion of a college program in graphic arts, or other training in typography, computer typesetting, or desktop publishing is usually required.

Workplaces/Employers

Commercial printing companies

Firms that specialize in typesetting

In-house printing departments of private and public sector establishments

Publishing and printing companies

Occupational Options

Progression to supervisory positions is possible through experience.

Similar Occupations Classified Elsewhere

Copy stylists, mechanical artists and paste-up artists (in 5223 *Graphic Arts Technicians*)

Desktop publishing operator supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Graphic Designers and Illustrators (5241)

Proofreaders (in 1452 *Correspondence, Publication and Related Clerks*)

1423.6 File Preparation Operators

File preparation operators operate computers, image setters and digital proofers to transfer output or data to hard copy form.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

file preparation operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the principles, application and operation of computer software to transfer electronic output to hard copy format
- **Verbal ability** to use and interpret printing terms and to follow oral and written instructions
- **Spatial and form perception** to compare print copy with electronic layout of manuscripts
- **Clerical perception** to avoid and detect errors
- **Motor co-ordination and finger dexterity** to use keyboards
- **Manual dexterity** to store drafts on paper, diskette and master copies that contain texts and illustrations
- **Methodical interest in copying** information to produce text in hard copy format
- **Objective interest in operating** computer equipment and software
- **Innovative interest** in producing print publications by using specialized software to convert electronically created pages to hard copy format and to assess image quality

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4, 5, 6

- Completion of secondary school is required.
- Completion of a college program in graphic arts, or other training in typography, computer typesetting, or desktop publishing is usually required.

Workplaces/Employers

Commercial printing companies
Firms that specialize in typesetting

In-house printing departments of private and public sector establishments
Publishing and printing companies

Occupational Options

Progression to supervisory positions is possible through experience.

Similar Occupations Classified Elsewhere

Copy stylists, mechanical artists and paste-up artists (in 5223 *Graphic Arts Technicians*)

Desktop publishing operator supervisors (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

Graphic Designers and Illustrators (5241)

Proofreaders (in 1452 *Correspondence, Publication and Related Clerks*)

1424 Telephone Operators

Telephone operators run computerized telephone systems to advance and assist the completion of telephone calls.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	3

INTERESTS

MSO

DATA PEOPLE THINGS (DPT)

564

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

directory assistance operator
telephone operator
telephone service assistant
toll operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply techniques of telephone switchboard operations
- **Verbal ability** to request coin deposits for long distance calls, and to inform customers of area code numbers
- **Numerical ability** to calculate billing charges
- **Clerical perception** to consult printed directories and record billing information
- **Motor co-ordination** and **finger** and **manual dexterity** to make telephone connections and record time of toll calls
- **Methodical interest in copying** to record billing information and to take special action in providing emergency services
- **Social interest in speaking** with customers to provide directory assistance; and to relay phone service to people with disabilities
- **Objective interest in operating** telephone systems to advance and complete customers' telephone calls such as long distance, pay telephone, mobile radio/telephone, person-to-person, teleconference, and emergency calls; and in using computerized directory listing systems

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
1 Sitting
- Limb Co-ordination
1 Upper limb co-ordination

- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
3
- Completion of secondary school is required.
 - On-the-job training is provided.

Workplaces/Employers

Telephone companies

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Receptionists and Switchboard Operators (1414)

Supervisors of telephone operators (in 1211 *Supervisors, General Office and Administrative Support Clerks*)

1431 Accounting and Related Clerks

Accounting and related clerks calculate, prepare and process bills, invoices, accounts payable and receivable, budgets and other financial records according to established procedures.

Profile Summary										Examples of Job Titles									
APTITUDES										accounting clerk accounts payable clerk accounts receivable clerk audit clerk billing clerk budget clerk costing clerk deposit clerk finance clerk freight-rate clerk income tax return preparer invoice clerk ledger clerk tax clerk									
G	V	N	S	P	Q	K	F	M											
3	3	3	4	4	2	4	3	4											
INTERESTS																			
MIO																			
DATA PEOPLE THINGS (DPT)																			
384																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	0	1	1	1	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
3, 4																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to process financial records and business transactions such as accounts payable and receivable, payroll, purchase orders, cheques, invoices, cheque requisitions, and bank statements in a ledger or computer system
- **Verbal ability** to respond to customer inquiries and maintain good customer relations
- **Numerical ability** to calculate and prepare bills, invoices, account statements and other financial statements, and to calculate costs of materials, overhead and other expenses based on estimates, quotations and price lists
- **Clerical perception** to code, total, batch, enter and verify financial records and business transactions
- **Finger dexterity** to input data using computerized and manual systems
- **Methodical interest** in compiling information to issue documents related to accounts such as bills, invoices, account statements and other financial statements; in preparing period or cost statements or reports; and in gathering budget data and documents based on estimated revenues and expenses and previous budgets, and maintaining filing and record systems
- **Innovative interest** in balancing financial records and reconciling business transactions, and in solving problems
- **Objective interest** in operating computerized systems and office equipment to perform related clerical duties such as word processing, maintaining filing and record systems, faxing and photocopying

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
3, 4

- Completion of secondary school is usually required.
- Completion of college or other courses in accounting, bookkeeping or computer operation may be required.
- Some accounting clerks must be bondable.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to supervisory or skilled financial occupations, such as accounts payable supervisor, bookkeeper, or office manager is possible with additional training and experience.

Similar Occupations Classified Elsewhere

Banking, Insurance and Other Financial Clerks (1434)

Bookkeepers (1231)

Collectors (1435)

Financial Auditors and Accountants (1111)

Payroll Clerks (1432)

Supervisors, Finance and Insurance Clerks (1212)

1432 Payroll Clerks

Payroll clerks collect, verify and process payroll information and determine pay and benefit entitlements for employees within departments, companies or other establishments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	2	3	3	4

INTERESTS

MI5

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, R

Examples of Job Titles

benefits officer
pay advisor
pay and benefits administrator
pay and benefits clerk
pay clerk
payroll clerk
payroll officer
salary administration officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to process forms and documents for the administration of benefits such as pension plans, leaves, share savings, and employment and medical insurance
- **Verbal ability** to complete forms and documents
- **Numerical ability** to calculate pay and benefit entitlements, in Canadian and other currencies, and prepare statements of earnings for employees
- **Spatial and form perception** to verify statements of earnings indicating gross and net salaries and deductions such as taxes, union dues and insurance and pension plans
- **Clerical perception** to verify forms and documents, prepare employee payments and benefit payments by cheque or electronic transfer, and reconcile issued payrolls to bank statements
- **Motor co-ordination and finger dexterity** to use computer systems and office machines
- **Methodical interest in compiling** information for statistical reports, statements and summaries; in preparing T4 statements and other statements; and in maintaining records of employee attendance, leave and overtime
- **Innovative interest in operating** computerized systems to keep records and prepare and balance period-end reports
- **Social interest in speaking** with employees to provide information on payroll matters, benefit plans and collective agreement provisions

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
1 Sitting
- Limb Co-ordination
1 Upper limb co-ordination
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
4, R
- Completion of secondary school is usually required.
 - Completion of college or other courses in accounting, bookkeeping or payroll administration *or* experience as a financial clerk is usually required.
 - Payroll association certification may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Payroll administrative companies

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

- Administrative Clerks* (1441)
- Personnel and Recruitment Officers* (1223)
- Personnel Clerks* (1442)
- Supervisors of payroll clerks (in 1212 *Supervisors, Finance and Insurance Clerks*)

1433 Customer Service Representatives – Financial Services

Customer service representatives in this group process customers' financial transactions and provide information on related banking products and services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	2	4	3	4

INTERESTS

MSo

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	2	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 6

Examples of Job Titles

- bank teller
- credit union teller
- financial customer service representative
- foreign exchange teller

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to obtain and process information in order to provide services such as opening accounts and savings plans, and selling bonds, and to provide information on related banking products and services
- **Numerical ability** to process cash deposits and withdrawals, cheques, transfers, bills, credit card payments, money orders, certified cheques and other related banking transactions
- **Clerical perception** to resolve problems and discrepancies concerning customers' accounts
- **Methodical interest** in **compiling** information to prepare customer statements and other correspondence for mailing; and in sorting and filing deposit slips and cheques
- **Social interest** in **speaking** with customers to answer enquiries and to sell travellers' cheques, foreign currency and money orders
- **Objective interest** in **operating** computer programs, calculators and adding machines to balance daily transactions

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 2 Standing and/or walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited
-

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 3, 6

- Completion of secondary school is required.
 - A business college diploma may be required.
 - On-the-job training is provided.
-

Workplaces/Employers

Banks

Credit unions

Financial institutions

Trust companies

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Banking, Insurance and Other Financial Clerks (1434)

Customer Service, Information and Related Clerks (1453)

Supervisors, Finance and Insurance Clerks (1212)

1434.1 Bank Clerks

Bank clerks compile, process and maintain banking and other financial information.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

MI5

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

bank clerk
credit clerk
ledger control clerk
loan clerk
mortgage clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to process loan and mortgage applications and payments, retirement savings plan applications, term deposits, drafts and money orders
- **Verbal ability** to notify customers regarding account discrepancies and captured bank cards
- **Numerical ability** to calculate service charges and interest payments
- **Clerical perception** to verify automatic teller machine transactions and ledger entries
- **Motor co-ordination and finger dexterity** to use office equipment and handle money
- **Methodical interest in compiling** information for records of deposits, withdrawals, loan and mortgage payments, cheques and the purchase, sale and exchange of securities
- **Innovative interest in operating** computer systems to balance automatic teller machine transactions and ledger entries
- **Social interest in speaking** with customers to answer questions and provide information on banking products, policies and services; may sell drafts, money orders, travellers' cheques and foreign currency, and rent safety deposit boxes or open and close savings, chequing and other accounts

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction

- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 4, 5, 6
- Completion of secondary school is required.
 - Business college diploma may be required.
 - On-the-job training and short-term training courses or programs specific to the financial establishment are usually required.

Workplaces/Employers

- Banks
- Credit companies

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

- Bookkeepers* (1231)
- Customer Service Representatives – Financial Services* (1433)
- Customer Service, Information and Related Clerks* (1453)
- General Office Clerks* (1411)
- Supervisors, Finance and Insurance Clerks* (1212)

1434.2 Insurance Clerks

Insurance clerks compile, process and maintain insurance information.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

MI5

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

actuarial clerk
dental claims clerk
insurance clerk
insurance rater
premium rater

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to review and process insurance applications
- **Verbal ability** to reply to correspondence about routine insurance matters
- **Numerical ability** to calculate insurance premiums, pension benefits and annuity payments
- **Clerical perception** to verify insurance coverage, premiums paid and other insurance information
- **Motor co-ordination and finger dexterity** to use office equipment
- **Methodical interest in compiling** and maintaining claims data, rates and insurance data and records
- **Innovative interest in operating** computer equipment and office machines to process enrolments, cancellations, claims transactions, policy changes and premium payments
- **Social interest in speaking** with customers to answer questions and provide information on insurance products, policies and services

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
1 Sitting
- Limb Co-ordination
1 Upper limb co-ordination
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
4, 5, 6
- Completion of secondary school is required.
 - Business college diploma may be required.
 - On-the-job training and short-term training courses or programs specific to the financial establishment are usually required.

Workplaces/Employers

Private and public insurance establishments

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

- Bookkeepers* (1231)
- Customer Service Representatives – Financial Services* (1433)
- Customer Service, Information and Related Clerks* (1453)
- General Office Clerks* (1411)
- Supervisors, Finance and Insurance Clerks* (1212)

1434.3 Other Financial Clerks

Financial clerks in this group compile, process and maintain financial information.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

M1s

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

dividend calculation clerk

real estate clerk

securities clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to review and analyze documents and reply to correspondence
- **Numerical ability** and **clerical perception** to make mathematical calculations and to sort and verify real estate, securities and other financial transactions
- **Motor co-ordination** and **finger dexterity** to use office equipment
- **Methodical interest** in **compiling** and maintaining rental, sale and other real estate listings, and to maintain stock, bond and other securities listings
- **Innovative interest** in **operating** computer systems to process financial information and transactions
- **Social interest** in **speaking** with customers to answer questions

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
1 Sitting
- Limb Co-ordination
1 Upper limb co-ordination
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
4, 5, 6
- Completion of secondary school is required.
 - Business college diploma may be required.
 - On-the-job training and short-term training courses or programs specific to the financial establishment are usually required.

Workplaces/Employers

- Credit companies
- Financial establishments throughout the private and public sectors
- Investment firms

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

- Bookkeepers* (1231)
- Customer Service Representatives – Financial Services* (1433)
- Customer Service, Information and Related Clerks* (1453)
- General Office Clerks* (1411)
- Supervisors, Finance and Insurance Clerks* (1212)

1435 Collectors

Collectors locate debtors to make collection arrangements and collect payments on overdue accounts and bad cheques.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MIs

DATA PEOPLE THINGS (DPT)

368

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

3, 6, R

Examples of Job Titles

bill collector
collection clerk
collection officer
collections investigation officer
collector
credit and collection clerk
locator
skip tracer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to trace and locate debtors and to recommend legal action or discontinuation of service in cases where payments are not made
- **Verbal ability** to notify debtors of overdue payments and accounts by telephone, mail and registered mail, to continue the notification process if replies are not received and to answer correspondence
- **Numerical ability and clerical perception** to calculate amounts due
- **Methodical interest** in **compiling** and maintaining records and files; may work with on-line accounts and systems
- **Innovative interest** in tracing and locating debtors and in making collection arrangements; may contact debtors' friends, neighbours, relatives and employers to obtain information
- **Social interest** in **speaking** with debtors in person or by telephone to resolve collection issues by making payment arrangements

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

L3 Outside

Employment Requirements

Education/Training

3, 6, R

- Completion of secondary school is required.
- A business college diploma may be required.
- A period of on-the-job training is often provided for collection clerks and collection officers.
- A collections licence issued by the province or territory of employment is usually required.

Workplaces/Employers

Banks

Collection agencies

Credit unions

Department stores

Financial and licensing departments within governments

Loan companies

Utility companies

Occupational Options

Progression to senior or supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Accounts receivable clerks (in 1431 *Accounting and Related Clerks*)

Collections supervisors (in 1212 *Supervisors, Finance and Insurance Clerks*)

Tax collection officers (in 1228 *Immigration, Employment Insurance and Revenue Officers*)

1441 Administrative Clerks

Administrative clerks compile, verify, record and process forms and documents such as applications, licences, permits, contracts, registrations and requisitions according to established procedures, guidelines and schedules.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	3	4
INTERESTS								
MIo								
DATA PEOPLE THINGS (DPT)								
364								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	1	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
4								

Examples of Job Titles

- administrative clerk
- application clerk
- authorization clerk
- by-law clerk
- customs clerk
- documentation clerk
- import clerk
- licence clerk
- office administration clerk
- passport clerk
- registration clerk
- registry clerk
- ward clerk – hospital
- warranty clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to authorize and issue licences, permits, registration papers, reimbursements and other material after requesting documents that have been processed and approved
- **Verbal ability** to prepare reports and presentations, and provide information to staff and general public regarding company and program rules, regulations and procedures
- **Numerical ability and clerical perception** to verify, record and process forms and documents; may be responsible for some accounting tasks
- **Methodical interest in compiling** applications, licences, permits, contracts, registrations, requisitions and other forms and documents according to established procedures, guidelines and schedules; and in maintaining inventories of office supplies and ordering supplies
- **Innovative interest in speaking** with staff to assist in the co-ordination of administrative procedures such as budget submissions, contracts administration and work schedules; may organize and co-ordinate flow of work for general office clerks, and data entry clerks
- **Objective interest in operating** computerized systems to process administrative forms and documents

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction

- Body Position
- 1 Sitting

- Limb Co-ordination
- 1 Upper limb co-ordination

- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 4
- Completion of secondary school is usually required.
 - Completion of college or other courses in business administration is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to supervisory positions is possible with experience.

Progression to officer level positions is possible with additional training and experience.

Similar Occupations Classified Elsewhere

- Administrative Officers* (1221)
- Court Clerks* (1443)
- Executive Assistants* (1222)
- General Office Clerks* (1411)
- Personnel Clerks* (1442)
- Supervisors, General Office and Administrative Support Clerks* (1211)

1442 Personnel Clerks

Personnel clerks assist personnel officers and human resources specialists and compile, maintain and process information relating to staffing, recruitment, training, labour relations, performance evaluations and classifications.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4
INTERESTS								
MSo								
DATA PEOPLE THINGS (DPT)								
364								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	1	1	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
3, 4								

Examples of Job Titles

classification clerk – human resources
employment clerk
human resources assistant
human resources clerk
labour relations clerk
personnel services clerk
staffing clerk
training clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to process documents relating to personnel activities such as staffing, recruitment, training, grievances, performance evaluations and classifications
- **Verbal ability** to compile and prepare reports and documents relating to personnel activities, and to respond to telephone and written inquiries from staff and the general public regarding personnel matters
- **Numerical ability** to score employment tests such as keyboarding and proofreading tests
- **Clerical perception** to verify and register documents
- **Methodical interest** in **compiling** information to maintain and update manual and computerized filing and registration systems; and in administering routine employment tests
- **Social interest** in **speaking** with individuals to conduct reference checks, arrange for advertising and posting of job vacancies, assist in screening and rating of job applicants and arrange for in-house training and external training activities
- **Objective interest** in **operating** computerized filing and registration systems

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
1 Sitting
- Limb Co-ordination
1 Upper limb co-ordination
- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
3, 4
- Completion of secondary school is usually required.
 - Completion of college or other courses in personnel administration may be required.
 - Some clerical experience may be required.

Workplaces/Employers

Personnel departments throughout the private and public sectors

Occupational Options

Progression to supervisory positions is possible with experience.

Progression to officer level positions is possible with additional training and experience.

Similar Occupations Classified Elsewhere

- Administrative Clerks* (1441)
- College and Other Vocational Instructors* (4131)
- Payroll Clerk* (1432)
- Personnel and Recruitment Officers* (1223)
- Specialists in Human Resources* (1121)

1443 Court Clerks

Court clerks perform support functions in courts of law, such as calling court to order, preparing court dockets and maintaining exhibits.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MSd

DATA PEOPLE THINGS (DPT)

367

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3

Examples of Job Titles

court clerk
court clerk-crier
criminal court clerk
judicial clerk
provincial court clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to perform clerical support functions in courts of law
- **Verbal ability** to prepare court files, court dockets and other documents
- **Numerical ability and clerical perception** to receive, disburse and account for fines, fees and trust moneys
- **Methodical interest in compiling** information to record main court proceedings, including pleas, names of witnesses, dates, times and rulings, to update and maintain court office paper and electronic indexes and files on actions taken by courts and responses to court decisions
- **Social interest in speaking** to assist the public in court offices and to swear in witnesses; and in reading charges and taking pleas from defendants
- **Directive interest in handling** to manage care and custody of court exhibits; in preparing documents for and participating in jury selection; and in calling courts of law to order

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction

- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 3
- Completion of secondary school is required.
 - On-the-job training is provided.

Workplaces/Employers

Federal and provincial courts

Occupational Options

Progression to supervisory or court officer positions is possible with experience.

Similar Occupations Classified Elsewhere

Court Officers and Justices of the Peace (1227)

Court Recorders and Medical Transcriptionists (1244)

1451 Library Clerks

Library clerks issue and receive library materials, sort and shelve books and provide general library information to users. They also perform clerical functions.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
3	3	4	4	3	3	3	4	4
INTERESTS								
MSo								
DATA PEOPLE THINGS (DPT)								
677								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	3	1	2			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
3								

Examples of Job Titles

- circulation clerk
- interlibrary loan clerk
- library clerk
- library page
- periodicals clerk
- reference clerk
- shelving clerk – library

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to provide general library information to users and to perform clerical functions such as manual and electronic filing, word processing and occasional typing
- **Form perception** to sort books and other materials
- **Clerical perception** to transcribe and check entries such as names, titles and numbers
- **Motor co-ordination** to sort and reshelve books and to perform clerical duties
- **Methodical interest** in **comparing** information to reshelve books and other materials; and to maintain journal subscriptions
- **Social interest** in **assisting** users to gain access to materials and to make interlibrary loans
- **Objective interest** in **handling** to issue and receive books and other materials

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

3

- Completion of secondary school is usually required.

Workplaces/Employers

Establishments with library services

Libraries

Occupational Options

Progression to more senior positions is possible with experience and post-secondary education related to library science.

Similar Occupations Classified Elsewhere

Librarians (5111)

Library technicians (in 5211 *Library and Archive Technicians and Assistants*)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

1452.1 Classified Advertising Clerks

Classified advertising clerks take orders, calculate rates, bill customers for classified advertisements, write and edit ad copy and perform other related clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	3	3	3	3	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

564

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 6

Examples of Job Titles

advertising clerk
classified advertising clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning, verbal** and **numerical ability** to receive customers' orders for classified advertising, to calculate advertising rates and to bill customers
- **Clerical perception** to edit copy and verify billing
- **Finger dexterity** to carry out word processing functions
- **Methodical interest** in **copying** to compose copy for advertisements; and in maintaining files of orders
- **Innovative interest** in **operating** computers to compile material for publication; may set up advertisements using knowledge of formats, sizes of type and rates
- **Directive interest** in **speaking** to advise customers on issues regarding ads such as rates, space and cancellation privileges

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction

- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination

- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 3, 4, 6
- Completion of secondary school is required.
 - Additional courses or a diploma in writing, journalism or a related field may be required.
 - Previous clerical or administrative experience may be required.

Workplaces/Employers

- Newspapers
- Publishing forms

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

1452.2 Correspondence Clerks

Correspondence clerks write correspondence, proofread material and perform other related clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 6

Examples of Job Titles

correspondence clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to read incoming correspondence, to write business and government correspondence, such as replies to requests for information and assistance, and to perform other related clerical duties such as word processing
- **Clerical perception** to proofread material
- **Finger dexterity** to perform clerical duties
- **Methodical interest** in **copying** information to complete form letters and gather data for replies; may keep files of correspondence sent, received and requiring further action
- **Innovative interest** in **operating** computers to compose letters regarding items such as damage claims, credit and billing enquiries and service complaints
- **Directive interest** in routing correspondence to individuals or departments for investigation and replies

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant

- Hearing
1 Limited

- Body Position
1 Sitting

- Limb Co-ordination
1 Upper limb co-ordination

- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
3, 4, 6
- Completion of secondary school is required.
 - Additional courses or a diploma in writing, journalism or a related field may be required.
 - Previous clerical or administrative experience may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

1452.3 Editorial Assistants and Publication Clerks

Editorial assistants and publication clerks assist in the preparation of material for publication, proofread material, conduct research to verify facts contained in material to be published and perform other related clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	2	3	3	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 6

Examples of Job Titles

directory compiler
editorial assistant
publication clerk
translation clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to assist in preparing and editing material for publication and to perform other related clerical duties such as word processing
- **Clerical perception** to proofread materials
- **Finger dexterity** to perform clerical duties
- **Methodical interest in compiling** information to conduct research and prepare material for publication
- **Innovative interest** in verifying facts, dates and statistics from standard reference sources
- **Directive interest in operating** computers to assist in the preparation of periodicals, advertisements, catalogues, directories and other material

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
3, 4, 6

- Completion of secondary school is required.
- Additional courses or a diploma in writing, journalism or a related field may be required.
- Previous clerical or administrative experience may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Newspapers

Publishing firms

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

1452.4 Proofreaders

Proofreaders read proofs before publication to detect errors, mark copy for correction and perform other related clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	3	1	3	3	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

587

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 6

Examples of Job Titles

proofreader

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **clerical perception** to read proofs for grammatical, typographical and compositional errors within tight deadlines
- **Verbal ability** to discuss grammatical and compositional discrepancies and obtain appropriate signatures to authorize changes
- **Innovative interest** in correcting compositional errors in proofs
- **Finger dexterity** to mark proofs with pencils and pens
- **Directive interest** in **handling** materials to place marked proofs in trays for corrections and to write initials, times and dates on proofs to indicate approvals; and in authorizing type into final form for printing
- **Methodical interest** in **copying** information to mark material for errors using codes that indicate deviations from copy and to instruct desktop publishing operators or typesetters to change typographical details

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
3, 4, 6

- Completion of secondary school is required.
- Additional courses or a diploma in writing, journalism or a related field may be required.
- Previous clerical or administrative experience may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Newspapers

Publishing firms

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

1452.5 Readers and Press Clippers

Readers and press clippers read newspapers, magazines, press releases and other publications to locate, file and distribute articles and to perform other related clerical duties.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

684

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 6

Examples of Job Titles

press clipper
reader

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to read newspapers, magazines, press releases and other publications, and to perform other related clerical duties
- **Clerical perception** to mark items to be clipped using established code systems
- **Finger dexterity** to use computers, perform clerical duties and clip articles of interest
- **Methodical interest** in **comparing** information to file articles of interest to staff and clients; may prepare cross-indexes of articles for future reference
- **Innovative interest** in locating articles of interest for staff and clients
- **Directive interest** in **operating** computers to circulate articles; and in posting articles on bulletin boards

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3, 4, 6

- Completion of secondary school is required.
- Additional courses or a diploma in writing, journalism or a related field may be required.
- Previous clerical or administrative experience may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Professional Occupations in Public Relations and Communications (5124)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

1453.1 Customer Service Clerks in Retail Establishments

Customer service clerks in retail establishments answer questions and investigate complaints regarding establishments' goods, services and policies, and provide services such as receiving payments and processing requests for services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MSI

DATA PEOPLE THINGS (DPT)

568

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 5, 6

Examples of Job Titles

complaints clerk – customer service
counter enquiries clerk
courtesy desk clerk
customer service clerk
public relations clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to receive credit and employment applications and to process requests for services
- **Verbal ability** to answer customers' questions in person or on the phone
- **Numerical ability** to calculate refund and credit amounts
- **Clerical perception** to keep records showing amount of payments and balances due on accounts
- **Methodical interest in copying** information to receive account payments
- **Social interest in speaking** with customers to provide information regarding the establishment's goods, services and policies
- **Innovative interest** in investigating complaints; and in arranging for refunds, exchanges and credit for returned merchandise

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
3, 4, 5, 6
- Completion of secondary school is usually required.
 - Completion of some college or other post-secondary programs may be required.
 - Clerical or sales experience may be required.

Workplaces/Employers

Retail establishments

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

- Correspondence, Publication and Related Clerks (1452)*
- Customer service representatives in banks and other financial institutions (in 1433 *Customer Service Representatives – Financial Services*)
- General ticket and information agents (airline) (in 6433 *Airline Sales and Service Agents*)
- Receptionists and Switchboard Operators (1414)*
- Retail Salespersons and Sales Clerks (6421)*
- Supervisors, Library, Correspondence and Related Information Clerks (1213)*
- Ticket and information clerks (Except airline) (in 6434 *Ticket Agents, Cargo Service Representatives and Related Clerks (Except Airline)*)

1453.2 Call Centre Agents

Call centre agents take customer orders for goods or services, promote goods and services, respond to enquiries and emergencies, investigate complaints and update accounts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MSi

DATA PEOPLE THINGS (DPT)

568

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 5, 6

Examples of Job Titles

- call centre agent
- customer service representative – call centre
- order desk agent

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to process information required to promote goods and services and answer questions
- **Numerical ability and clerical perception** to update accounts
- **Methodical interest in copying** information to take orders for goods and services
- **Social interest in speaking** with customers to respond to enquiries and emergencies
- **Innovative interest** in investigating complaints and in responding to emergencies

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
3, 4, 5, 6

- Completion of secondary school is usually required.
- Completion of some college or other post-secondary programs may be required.
- Clerical or sales experience may be required.

Workplaces/Employers

Call centres

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Correspondence, Publication and Related Clerks (1452)

Customer service representatives in banks and other financial institutions (in 1433 *Customer Service Representatives – Financial Services*)

General ticket and information agents (airline) (in 6433 *Airline Sales and Service Agents*)

Receptionists and Switchboard Operators (1414)

Retail Salespersons and Sales Clerks (6421)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

Ticket and information clerks (Except airline) (in 6434 *Ticket Agents, Cargo Service Representatives and Related Clerks (Except Airline)*)

1453.3 Customer Service Clerks in Insurance, Telephone, Utility and Similar Companies

Customer service clerks in insurance, telephone, utility and similar companies explain types and costs of services, order services, provide information about claims and accounts, initiate billing and process claim payments, and receive payment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MSi

DATA PEOPLE THINGS (DPT)

568

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 5, 6

Examples of Job Titles

- complaints clerk – customer service
- counter enquiries clerk
- courtesy desk clerk
- customer service clerk
- public relations clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to process information required to answer customers' questions and to arrange for the provision of services
- **Numerical ability and clerical perception** to calculate costs of services and keep billing and payment records
- **Methodical interest in copying** information to receive payments and update accounts
- **Social interest in speaking** with customers to explain types and costs of services offered
- **Innovative interest** in obtaining information required to order services and provide information about claims or accounts; and in initiating billing and processing claim payments

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 3, 4, 5, 6

- Completion of secondary school is usually required.
- Completion of some college or other post-secondary programs may be required.
- Clerical or sales experience may be required.

Workplaces/Employers

Insurance companies

Telephone companies

Utility companies

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Correspondence, Publication and Related Clerks (1452)

Customer service representatives in banks and other financial institutions (in 1433 *Customer Service Representatives – Financial Services*)

General ticket and information agents (airline) (in 6433 *Airline Sales and Service Agents*)

Receptionists and Switchboard Operators (1414)

Retail Salespersons and Sales Clerks (6421)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

Ticket and information clerks (Except airline) (in 6434 *Ticket Agents, Cargo Service Representatives and Related Clerks (Except Airline)*)

1453.4 Information Clerks

Information clerks provide information to the public about goods, services, schedules, rates, regulations and policies of establishments in response to telephone and in-person questions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MSi

DATA PEOPLE THINGS (DPT)

568

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 5, 6

Examples of Job Titles

- accounts information clerk
- bus information clerk
- counter enquiries clerk
- enquiries clerk
- hospital information clerk
- information clerk – customer service
- lost-and-found clerk
- tourist information clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to process requests for services and answer questions
- **Numerical ability** to determine rates for goods and services
- **Clerical perception** to read schedules and keep records
- **Methodical interest** in **copying** information concerning telephone and in-person questions; may keep record of enquiries
- **Social interest** in **speaking** with customers and the public to provide information concerning establishments' goods, services, schedules, rates, regulations and policies
- **Innovative interest** in obtaining information to respond to requests and questions

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3, 4, 5, 6

- Completion of secondary school is usually required.
- Completion of some college or other post-secondary programs may be required.
- Clerical or sales experience may be required.

Workplaces/Employers

Establishments throughout the private and public sectors

Insurance companies

Retail establishments

Telephone companies

Utility companies

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Correspondence, Publication and Related Clerks (1452)

Customer service representatives in banks and other financial institutions (in 1433 *Customer Service Representatives – Financial Services*)

General ticket and information agents (airline) (in 6433 *Airline Sales and Service Agents*)

Receptionists and Switchboard Operators (1414)

Retail Salespersons and Sales Clerks (6421)

Supervisors, Library, Correspondence and Related Information Clerks (1213)

Ticket and information clerks (Except airline) (in 6434 *Ticket Agents, Cargo Service Representatives and Related Clerks (Except Airline)*)

1454.1 Survey Interviewers

Survey interviewers contact individuals to gather information for market research, public opinion polls and election and census enumeration.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

MSI

DATA PEOPLE THINGS (DPT)

564

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

2, 3, 4, R

Examples of Job Titles

- census enumerator
- election enumerator
- interview clerk
- poll clerk
- public opinion interviewer
- survey interviewer
- telephone survey clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to contact individuals by telephone and in person, explain the purposes of interviews and gather information
- **Numerical ability** and **clerical perception** to code, tabulate, record and enter responses
- **Finger dexterity** to input responses into computer systems
- **Methodical interest** in **copying** information to record responses on paper or into computer databases
- **Social interest** in **speaking** with respondents to ask questions following the outlines of questionnaires and surveys
- **Innovative interest** in **operating** computer-assisted interviewing systems to enter responses directly into computer databases

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
3 Sitting, standing, walking

- Limb Co-ordination
1 Upper limb co-ordination

- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

- Education/Training
2, 3, 4, R
- Completion of secondary school may be required.
 - Experience in the operation of a computer may be required.
 - On-the-job training is usually provided.
 - May require driver's licence.

Workplaces/Employers

Government departments and agencies

Market research and polling firms

Utility companies and other establishments

Similar Occupations Classified Elsewhere

Correspondence, Publication and Related Clerks (1452)

Customer Service, Information and Related Clerks (1453)

Telemarketers (in 6623 *Other Elemental Sales Occupations*)

1454.2 Statistical Clerks

Statistical clerks code and compile interview and other data into reports, lists, directories and other documents. This group also includes clerks who observe and record information on traffic flow.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

MIO

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

2, 3, 4

Examples of Job Titles

coding clerk
statistical clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **verbal ability** to code and compile interview and other data to prepare reports, lists, directories and other documents
- **Numerical ability** to tabulate statistics for use in statistical studies
- **Clerical perception** to check information for completeness and accuracy
- **Finger dexterity** to enter data into computer systems
- **Methodical interest** in **compiling** information to assemble interview and other data into reports and lists; and in coding information according to established coding manuals
- **Innovative interest** in conducting routine statistical analyses of data
- **Objective interest** in **operating** computers for data entry and analyses

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

2, 3, 4

- Completion of secondary school may be required.
- Experience in the operation of a computer may be required.
- On-the-job training is usually provided.

Workplaces/Employers

Government departments and agencies

Market research and polling firms

Utility companies and other establishments

Similar Occupations Classified Elsewhere

Correspondence, Publication and Related Clerks (1452)

Customer Service, Information and Related Clerks (1453)

Telemarketers (in 6623 *Other Elemental Sales Occupations*)

1461.1 Postal Clerks

Postal clerks serve customers and record transactions at sales counters and postal wickets.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	3	4

INTERESTS

Mis

DATA PEOPLE THINGS (DPT)

567

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	2	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

2, 3, 4

Examples of Job Titles

bus parcel express clerk
express mail service clerk
postal clerk
postal counter clerk
postal wicket clerk
railway mail clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to process and sort mail and parcels in post offices
- **Numerical ability and clerical perception** to calculate postage on letters, parcels and registered mail, and to record and receive payments
- **Finger dexterity** to affix postage on letters, parcels and registered mail
- **Methodical interest in copying** information to complete forms regarding changes of address, theft and loss of mail; and in signing or obtaining signatures from recipients for registered and special delivery mail, and keeping records
- **Innovative interest in handling** to route mail to proper delivery streams; and in balancing daily transactions
- **Social interest in speaking** with customers to answer questions and sell stamps, prepaid mail, courier envelopes and money orders

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction
- Body Position
- 2 Standing and/or walking
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 2 Light

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 2, 3, 4
- Completion of secondary school and some college office administration courses may be required.

Workplaces/Employers

- Canada Post Corporation
- Courier services
- Establishments throughout the private and public sectors
- Parcel express services

Occupational Options

Progression to supervisory or facility management positions is possible with additional training or experience.

Similar Occupations Classified Elsewhere

- Couriers, Messengers and Door-to-Door Distributors (1463)*
- Letter Carriers (1462)*
- Supervisors, Mail and Message Distribution Occupations (1214)*

1461.2 Mail Sorters

Mail sorters process and sort mail and parcels in post offices and mail processing plants.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	4	4	3	4	3	4

INTERESTS

Mio

DATA PEOPLE THINGS (DPT)

587

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

2, 3, 4

Examples of Job Titles

mail sorter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **clerical perception** to sort mail and parcels in post offices and mail processing plants, and to verify addresses
- **Finger dexterity** to tie mail in bundles
- **Methodical interest in copying** information to label mail; and in sorting mail according to destination
- **Innovative interest in handling** to bag and route sorted mail to proper delivery streams; and in searching directories to find correct addresses for redirected mail
- **Objective interest** in using automated mail-sorting equipment

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

4 Other body positions

Limb Co-ordination

1 Upper limb co-ordination

Strength

3 Medium

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

2, 3, 4

- Completion of secondary school and some college office administration courses may be required.

Workplaces/Employers

Canada Post Corporation

Courier services

Establishments throughout the private and public sectors

Parcel express services

Occupational Options

Progression to supervisory or facility management positions is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Couriers, Messengers and Door-to-Door Distributors (1463)

Letter Carriers (1462)

Supervisors, Mail and Message Distribution Occupations (1214)

1461.3 Mail Room Clerks

Mail room clerks process incoming and outgoing mail, faxes, messages, courier packages manually or electronically, and maintain databases and produce personalized mailings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	4	4	3	4	3	4

INTERESTS

Mio

DATA PEOPLE THINGS (DPT)

587

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

2, 3, 4

Examples of Job Titles

mail clerk
mail room clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to process mail, faxes, messages and parcels manually or electronically
- **Clerical perception** to weigh outgoing mail and calculate postage, and to print and photocopy material, and address and stuff envelopes
- **Finger dexterity** to affix postage to outgoing mail
- **Methodical interest in copying** information to maintain address databases and produce personalized mailings; and in sorting incoming and outgoing mail, faxes, messages and packages
- **Innovative interest in handling** to bundle outgoing mail by postal code
- **Objective interest** in using automated mail-sorting equipment; may operate and maintain print shop and mail house equipment

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 1 Limited

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 2, 3, 4

- Completion of secondary school and some college office administration courses may be required.

Workplaces/Employers

Canada Post Corporation

Courier services

Establishments throughout the private and public sectors

Parcel express services

Occupational Options

Progression to supervisory or facility management positions is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Couriers, Messengers and Door-to-Door Distributors (1463)

Letter Carriers (1462)

Supervisors, Mail and Message Distribution Occupations (1214)

1462 Letter Carriers

Letter carriers sort and deliver mail, record delivery of registered mail and collect money for cash-on-delivery (COD) parcels.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	4	4	4	3	3	4	3

INTERESTS

Mos

DATA PEOPLE THINGS (DPT)

577

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	1	2*	2	3

ENVIRONMENTAL CONDITIONS (EC)

L3, L4*

EDUCATION/TRAINING

2, R

Examples of Job Titles

letter carrier
mail carrier
rural mail carrier

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to deliver mail along established routes
- **Clerical perception** to collect payments for cash-on-delivery (COD) service
- **Finger and manual dexterity** to organize mail by address and to load mail into mailbags
- **Methodical interest in copying** information to record deliveries of registered mail
- **Objective interest in handling** to deliver letters, small parcels, telegrams, special delivery and express mail and other printed matter, and to return undeliverable mail to postal stations
- **Social interest in assisting** customers by leaving notices when items can not be delivered and specifying locations where they can be picked up; and in obtaining signatures for registered mail

Physical Activities

Vision

4 Total visual field

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

2* Standing and/or walking

Limb Co-ordination

2 Multiple limb co-ordination

Strength

3 Medium

Environmental Conditions

Location

L3 Outside

L4* In a vehicle or cab

Employment Requirements

Education/Training

2, R

- Some secondary school education is required.
- Two weeks to one month of training is provided by Canada Post Corporation.
- A driver's licence is required.

Workplaces/Employers

Canada Post Corporation

Occupational Options

Progression to supervisory positions is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Couriers, Messengers and Door-to-Door Distributors (1463)

Letter carrier supervisors (in 1214 *Supervisors, Mail and Message Distribution Occupations*)

Mail, Postal and Related Clerks (1461)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 3** (Sitting, standing, walking) may also apply.

*Environmental Conditions

- For some occupations in this group, **Location L4** (In a vehicle or a cab) may also apply.

1463 Couriers, Messengers and Door-to-Door Distributors

Couriers, messengers and door-to-door distributors pick up and deliver letters, parcels, packages, newspapers, flyers and other items within and between establishments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	4	4	4	3	4	4	4

INTERESTS

Mos

DATA PEOPLE THINGS (DPT)

577

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	1	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L3, L4*

EDUCATION/TRAINING

2+

Examples of Job Titles

bank messenger
courier
delivery person – courier service
door-to-door distributor
flyer distributor
messenger
newspaper carrier
runner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to pick up and deliver printed materials and other items within prescribed time periods
- **Clerical perception** to collect payments
- **Methodical interest** in **copying** information to keep records of delivery transactions using delivery information acquisition devices
- **Objective interest** in **handling** to deliver newspapers, flyers, handbills, telephone directories and similar items to residences and businesses, and to hand-deliver mail to addressees within an organization and to establishments by walking or cycling
- **Social interest** in **assisting** customers by picking up and delivering messages, letters, envelopes, parcels, airline tickets, legal documents, packages, cheques, bonds, securities and other items

Physical Activities

Vision
4 Total visual field

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L3 Outside
L4* In a vehicle or cab

Employment Requirements

Education/Training
2+

- Secondary school education may be required.
- Eligibility for bonding may be required.
- Ability to navigate streets and follow directions is usually required.
- Physical fitness is required for some occupations in this group.

Workplaces/Employers

Courier service companies
Establishments throughout the private and public sectors

Occupational Options

There is some mobility into other delivery occupations such as delivery drivers.

There may be mobility to clerical occupations within the company.

Progression to supervisory positions may be possible with experience.

Similar Occupations Classified Elsewhere

Delivery and Courier Service Drivers
(7414)

Letter Carriers (1462)

Supervisors, Mail and Message Distribution Occupations (1214)

Remarks

*Environmental Conditions

- For some occupations in this group, Location L4 (In a vehicle or cab) may also apply.

1471 Shippers and Receivers

Shippers and receivers ship, receive and record the movement of parts, supplies, materials, equipment and stock to and from an establishment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	4

INTERESTS

MOd

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	1*	3

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

3, 4, R

Examples of Job Titles

- freight receiver
- freight shipper
- import freight clerk
- receiver
- shipper
- shipper-receiver
- shipping agent
- shipping and receiving clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine methods of shipment, arrange shipping and prepare shipping documents manually or on computer
- **Verbal and numerical ability** to prepare shipping instructions, bills of lading, customs forms, invoices and other documents
- **Clerical perception** to inspect and verify incoming goods against invoices and other documents, to record shortages and to reject damaged goods
- **Motor co-ordination** to assemble containers and crates, and to pack goods to be shipped
- **Finger dexterity** to affix identifying information and shipping instructions on goods
- **Methodical interest** in compiling information to maintain internal manual or computerized record-keeping systems; and in coding goods
- **Objective interest** in operating computers to keep records; and in unpacking and routing goods to appropriate storage areas; may operate fork lifts, hand trucks and other equipment to load, unload, transport and store goods
- **Directive interest** in overseeing loading and unloading of goods from trucks and other conveyances

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction

- Body Position
- 4 Other body positions

- Limb Co-ordination
- 1* Upper limb co-ordination

- Strength
- 3 Medium

Environmental Conditions

- Location
- L1 Regulated inside climate
 - L3 Outside

Employment Requirements

- Education/Training
- 3, 4, R
- Completion of secondary school is usually required.
 - Experience in a related clerical occupation or as a warehouse worker may be required.
 - Forklift certificate may be required.
 - Driver's licence may be required.

Workplaces/Employers

Commercial and industrial establishments

Manufacturing companies

Public sector

Retail establishments

Wholesale companies

Occupational Options

Progression to supervisory positions is possible with additional training or experience.

Similar Occupations Classified Elsewhere

- Material Handlers (7452)*
- Purchasing and Inventory Clerks (1474)*
- Storekeepers and Parts Clerks (1472)*

Remarks

- *Physical Activities
- For some occupations in this group, Limb Co-ordination 2 (Multiple limb co-ordination) may also apply.

1472 Storekeepers and Parts Clerks

Storekeepers and parts clerks sort, store and issue parts and supplies for use by the establishments in which they work and for sale to the public.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	3	4	3	4	4	4

INTERESTS

MOS

DATA PEOPLE THINGS (DPT)

564

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 5, 6, R

Examples of Job Titles

ammunition storekeeper
automotive partsperson
material keeper
medical supply clerk
motor vehicle parts clerk
parts clerk
parts supplier
partsperson
ship storeman/woman
storekeeper
tool room attendant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to receive and sort incoming parts and supplies, and to process incoming requisitions and issue or distribute parts and supplies for internal usage
- **Spatial perception** to store items in an orderly and accessible manner in warehouses, tool rooms, supply rooms and other areas
- **Clerical perception** to prepare requisition orders and keep inventory records
- **Methodical interest in copying** information to prepare requisition orders for parts and supplies, and to maintain records of orders and amount, kind and location of parts and supplies on hand
- **Objective interest in operating** computerized inventory systems; and in keeping records using manual systems
- **Social interest in speaking** with customers to sell spare and replacement parts for motor vehicles, machinery and equipment in retail settings and to advise retail customers and internal users on appropriateness of parts, supplies and materials requested

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

3, 4, 5, 6, R

- Completion of secondary school is usually required.
- Completion of a three-year apprenticeship program *or* completion of specialized training in high school and a one-year college program for parts clerks may be required.

- Trade certification for partspersons is available, but voluntary, in all provinces and territories except Ontario.

- Trade certification for industrial engines and equipment partspersons is available, but voluntary, in British Columbia.

- For parts clerks, experience in a related clerical occupation or as a warehouse worker may be required.

- Interprovincial trade certification (Red Seal) is also available to qualified partspersons.

Workplaces/Employers

Armed forces

Automobile parts industry

Construction companies

Educational institutions

Forestry companies

Health care institutions

Manufacturing companies

Mining companies

Other establishments throughout the private and public sectors

Repair shops

Retail establishments

Warehouses

Wholesale establishments

Occupational Options

Progression to supervisory positions is possible with additional training or experience.

Red Seal trade certification allows for interprovincial mobility.

Similar Occupations Classified Elsewhere

Parts clerks supervisors (in 1215 *Supervisors, Recording, Distributing and Scheduling Occupations*)

Purchasing and Inventory Clerks (1474)

Shippers and Receivers (1471)

Remarks

Parts clerks may specialize in a particular line of parts such as automotive parts, recreational vehicle parts, marine parts, heavy equipment parts, agricultural machinery parts, heating, ventilating and air conditioning parts or refrigeration parts.

1473 Production Clerks

Production clerks co-ordinate and expedite the flow of work and materials within establishments, prepare work and production schedules and monitor the progress of production and construction projects.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MIs

DATA PEOPLE THINGS (DPT)

164

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4

Examples of Job Titles

expediter
material estimator
production clerk
production co-ordinator
production scheduler
scheduling clerk
traffic control clerk

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to estimate types and quantities of materials and labour required for production, construction and other projects
- **Verbal and numerical ability** to consult with production supervisors to schedule production runs and prepare reports
- **Clerical perception** to compile detailed worksheets and specifications from customers' orders
- **Methodical interest** in **co-ordinating** and monitoring the movements of parts, supplies and materials within establishments; and in ensuring that supplies, materials and products are shipped and received on schedule
- **Innovative interest** in **operating** computerized systems to prepare and maintain reports on the progress of work, materials used, rates of production and other production information; and in co-ordinating activities between warehouses and production floors or construction sites
- **Social interest** in **speaking** with other production clerks, warehouse, production and construction supervisors, and purchasing and inventory clerks at regular meetings

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3, 4

- Completion of secondary school is usually required.
- Previous clerical experience or experience as a production worker may be required.

Workplaces/Employers

Construction companies

Industrial establishments

Manufacturing establishments

Printing firms

Publishing companies

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Purchasing and Inventory Clerks (1474)

Shippers and Receivers (1471)

Storekeepers and Parts Clerks (1472)

1474.1 Purchasing Clerks

Purchasing clerks process purchasing transactions, resolve supply problems and prepare and maintain files, reports and price lists.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

Mis

DATA PEOPLE THINGS (DPT)

368

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4

Examples of Job Titles

- procurement clerk
- purchasing clerk
- purchasing clerk assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to process purchases and to charge and forward invoices to the appropriate accounts
- **Verbal ability** to source and obtain price quotations from catalogues and suppliers, and to prepare purchase orders
- **Numerical ability** to calculate costs of orders
- **Clerical perception** to review requisition orders for accuracy
- **Methodical interest** in compiling information to prepare and maintain purchasing files, reports and price lists
- **Innovative interest** in verifying that materials, equipment and stock are not available from current inventories
- **Social interest** in speaking with suppliers to schedule deliveries and resolve shortages, missed deliveries and other problems

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant

- Hearing
- 1 Limited

- Body Position
- 1 Sitting

- Limb Co-ordination
- 0 Not relevant

- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 3, 4
- Completion of secondary school is usually required.
- Courses in purchasing management may be required for purchasing clerks.

Workplaces/Employers

- Government agencies
- Manufacturing companies
- Retail establishments
- Wholesale companies

Occupational Options

- The duties of purchasing and inventory clerks may overlap in some establishments.
- Progression to supervisory positions or more senior occupations such as purchasing agent or retail buyer is possible with additional training or experience.

Similar Occupations Classified Elsewhere

- Purchasing Agents and Officers (1225)
- Retail and Wholesale Buyers (6233)
- Storekeepers and Parts Clerks (1472)
- Supervisors of purchasing and inventory clerks (in 1215 Supervisors, Recording, Distributing and Scheduling Occupations)

1474.2 Inventory Clerks

Inventory clerks compile and maintain inventories of materials, equipment and stock, and monitor inventory levels.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

Mio

DATA PEOPLE THINGS (DPT)

387

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4

Examples of Job Titles

- inventory analyst
- inventory clerk
- inventory control clerk
- inventory planner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine types and values of materials, equipment and stock on hand
- **Verbal ability** to prepare requisition orders for materials, equipment and stock
- **Numerical ability** and **clerical perception** to count stock, material, merchandise and equipment, to post totals to inventory records and to enter data for production scheduling, stock replenishment/relocation and inventory adjustments
- **Methodical interest** in **compiling** inventory reports by recording the quantities, types and values of materials, equipment and stock on hand using manual or computerized inventory systems; in monitoring inventory levels as materials, equipment and stock are issued, transferred within establishments and sold to the public
- **Innovative interest** in reconciling physical inventories with computer counts
- **Objective interest** in **handling** materials to maintain stock rotation and dispose of, and account for, outdated stock; and in using manual or computerized inventory systems may route merchandise from one area to another

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

2 Light

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

3, 4

- Completion of secondary school is usually required.
- Courses in production and inventory management and ability to operate a computerized inventory system may be required for inventory clerks.

Workplaces/Employers

Government agencies
Manufacturing companies
Retail establishments
Wholesale companies

Occupational Options

The duties of purchasing and inventory clerks may overlap in some establishments.

Progression to supervisory positions or more senior occupations such as purchasing agent or retail buyer is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Purchasing Agents and Officers (1225)

Retail and Wholesale Buyers (6233)

Storekeepers and Parts Clerks (1472)

Supervisors of purchasing and inventory clerks (in 1215 *Supervisors, Recording, Distributing and Scheduling Occupations*)

1475.1 Dispatchers

Dispatchers operate radios and other telecommunication equipment to dispatch emergency vehicles and to co-ordinate the activities of drivers and other personnel.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MDS

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, R

Examples of Job Titles

911 dispatcher
alarm system dispatcher
ambulance dispatcher
dispatcher
emergency vehicle dispatcher
inbound/outbound freight co-ordinator
mobile equipment dispatcher
taxi dispatcher
tow truck dispatcher
truck dispatcher
utilities maintenance crew dispatcher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **verbal ability** to receive requests for emergency assistance or service, and to contact ambulances, police and fire departments, tow trucks and utility crews
- **Numerical ability** to maintain computer and manual records of mileage, fuel use, repairs and other expenses
- **Clerical perception** to ensure that time sheets and payroll summaries are completed; and to generate expense reports
- **Methodical interest in compiling** information to maintain operator work records using computerized or manual methods; and in monitoring personnel workloads and locations
- **Directive interest in operating** computer-aided communications and dispatching equipment to process and transmit information and instructions to co-ordinate the activities of vehicle operators, crews and equipment; and in dispatching personnel according to written schedules, work orders and as required by emergency situations
- **Social interest in speaking** with vehicle operators to advise on route and traffic problems such as construction, accidents, congestion, weather conditions and weight and size restrictions

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 3, 4, R

- Completion of secondary school is required.
- Police and emergency dispatchers are required to complete formal on-the-job training. Other dispatchers usually undergo some informal on-the-job training.
- Police and emergency dispatchers usually require provincial radio operator's certificates.

Workplaces/Employers

Commercial and industrial establishments

Emergency service agencies

Police, fire and health departments

Taxi, delivery and courier services

Trucking companies

Utility companies

Similar Occupations Classified Elsewhere

Air Traffic Control and Related Occupations (2272)

Bus dispatchers (in 7222 *Supervisors, Motor Transport and Other Ground Transit Operators*)

Railway Traffic Controllers and Marine Traffic Regulators (2275)

Supervisors of dispatchers (in 1215 *Supervisors, Recording, Distributing and Scheduling Occupations*)

1475.2 Radio Operators

Radio operators receive, transmit and record signals and messages using radios and other telecommunication equipment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

OMS

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	3	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, R

Examples of Job Titles

radio operator
radio operator – military

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to receive and transmit signals and messages using radios and other telecommunications equipment
- **Numerical ability** to recognize and determine optimum transmitter frequencies by referring to frequency guides and to understand and read meters, dials and gauges
- **Clerical perception** to record signals and messages and to prepare reports and correspondence
- **Objective interest in operating** radio equipment and fixed, air transportable, mobile and naval communications equipment in the Canadian Forces; and in assisting in equipment maintenance
- **Methodical interest in compiling** information to keep logs of messages; and in observing and recording weather conditions for use in forecasting
- **Social interest in speaking** to communicate with ships, aircraft, mining crews, offshore oil rigs, logging camps and other remote operations

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 3, R

- Completion of secondary school is required.
- Radio operators usually require provincial radio operator's certificates.

Workplaces/Employers

Armed forces

Forestry companies

Industrial establishments

Mining companies

Transportation companies

Similar Occupations Classified Elsewhere

Air Traffic Control and Related Occupations (2272)

Bus dispatchers (in 7222 *Supervisors, Motor Transport and Other Ground Transit Operators*)

Railway Traffic Controllers and Marine Traffic Regulators (2275)

Supervisors of dispatchers (in 1215 *Supervisors, Recording, Distributing and Scheduling Occupations*)

1476 Transportation Route and Crew Schedulers

Transportation route and crew schedulers prepare operational and crew schedules for transportation equipment and operating personnel.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MiO

DATA PEOPLE THINGS (DPT)

164

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+

Examples of Job Titles

bus scheduler
crew scheduler, transportation
flight crew scheduler
schedule analyst
schedule writer, transportation
train scheduler
transit scheduler
truck scheduler

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and numerical ability** to review schedule requisitions, passenger and cargo counts, running times, distances, personnel availability and other pertinent information to establish schedules
- **Verbal ability and clerical perception** to read schedules and compile equipment and personnel records including hours of service, distances, maintenance, repairs and other data in order to produce operating reports
- **Methodical interest in co-ordinating** information to incorporate into route plans such factors as peak-travel periods, holidays, special events and construction that affect time and cost efficiency; and in maintaining equipment and personnel records
- **Innovative interest in speaking** to assign personnel to equipment and routes and schedule work shifts; and in designing new, or modifying existing, schedules; may prepare user guides and other information for the public regarding services
- **Objective interest in operating** computer software to adjust schedules and design new or modify existing schedules

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+

- Completion of secondary school is required.
- Several years of experience in an appropriate transportation sector are usually required.
- On-the-job training may be provided.

Workplaces/Employers

Airlines

Municipal transit commissions

Railways

Transportation companies in both the private and public sectors

Truck, delivery and courier services

Occupational Options

Progression to supervisory positions is possible with experience.

Mobility among occupations in this group is limited due to the requirement for specific transportation sector experience.

Similar Occupations Classified Elsewhere

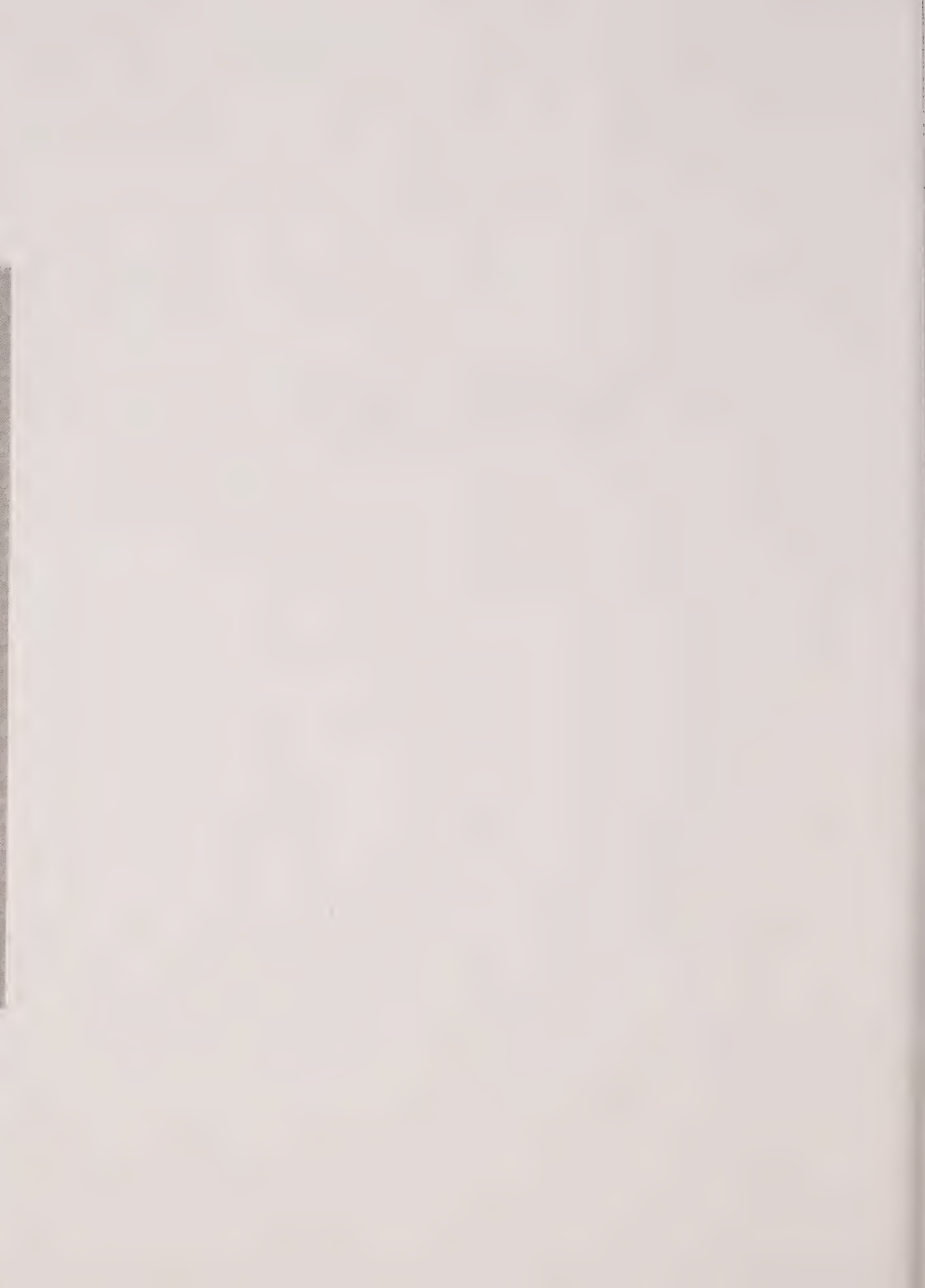
Flight schedulers managers (in 0713 *Transportation Managers*)

Production schedulers in manufacturing establishments (in 1473 *Production Clerks*)

Scheduling technicians in manufacturing (in 2233 *Industrial Engineering and Manufacturing Technologists and Technicians*)

Supervisors of transportation route and crew schedulers (in 1215 *Supervisors, Recording, Distributing and Scheduling Occupations*)

**Natural and Applied Sciences
and Related Occupations**



Natural and Applied Sciences and Related Occupations

MAJOR GROUP 21

PROFESSIONAL OCCUPATIONS IN NATURAL AND APPLIED SCIENCES

211 Physical Science Professionals

- 2111 Physicists and Astronomers
 - 2111.1 Physicists
 - 2111.2 Astronomers
- 2112 Chemists
- 2113 Geologists, Geochemists and Geophysicists
- 2114 Meteorologists
- 2115 Other Professional Occupations in Physical Sciences
 - 2115.1 Metallurgists
 - 2115.2 Soil Scientists
 - 2115.3 Materials Scientists

212 Life Science Professionals

- 2121 Biologists and Related Scientists
 - 2121.1 Biologists
 - 2121.2 Microbiologists and Cell and Molecular Biologists
- 2122 Forestry Professionals
- 2123 Agricultural Representatives, Consultants and Specialists

213 Civil, Mechanical, Electrical and Chemical Engineers

- 2131 Civil Engineers
- 2132 Mechanical Engineers
- 2133 Electrical and Electronics Engineers
- 2134 Chemical Engineers

214 Other Engineers

- 2141 Industrial and Manufacturing Engineers
- 2142 Metallurgical and Materials Engineers
- 2143 Mining Engineers
- 2144 Geological Engineers
- 2145 Petroleum Engineers
- 2146 Aerospace Engineers
- 2147 Computer Engineers (Except Software Engineers)
 - 2147.1 Computer and Telecommunications Hardware Engineers
 - 2147.2 Network System and Data Communication Engineers
- 2148 Other Professional Engineers, n.e.c.
 - 2148.1 Agricultural and Bio-resource Engineers
 - 2148.2 Biomedical Engineers
 - 2148.3 Engineering Physicists and Engineering Scientists
 - 2148.4 Marine and Naval Engineers
 - 2148.5 Textile Engineers

215 Architects, Urban Planners and Land Surveyors

- 2151 Architects
- 2152 Landscape Architects
- 2153 Urban and Land Use Planners
- 2154 Land Surveyors

216 Mathematicians, Statisticians and Actuaries

- 2161 Mathematicians, Statisticians and Actuaries
 - 2161.1 Mathematicians
 - 2161.2 Statisticians
 - 2161.3 Actuaries

217 Computer and Information Systems Professionals

- 2171 Information Systems Analysts and Consultants
 - 2171.1 Information Systems Business Analysts and Consultants
 - 2171.2 Systems Security Analysts
 - 2171.3 Information Systems Quality Assurance Analysts
 - 2171.4 Systems Auditors
- 2172 Database Analysts and Data Administrators
 - 2172.1 Database Analysts
 - 2172.2 Data Administrators
- 2173 Software Engineers
- 2174 Computer Programmers and Interactive Media Developers
 - 2174.1 Computer Programmers
 - 2174.2 Interactive Media Developers
- 2175 Web Designers and Developers

MAJOR GROUP 22**TECHNICAL OCCUPATIONS RELATED TO NATURAL AND APPLIED SCIENCES****221 Technical Occupations in Physical Sciences**

- 2211 Chemical Technologists and Technicians
 - 2211.1 Chemical Technologists
 - 2211.2 Chemical Technicians
- 2212 Geological and Mineral Technologists and Technicians
 - 2212.1 Geological and Mineral Technologists
 - 2212.2 Geological and Mineral Technicians
- 2213 Meteorological Technicians

222 Technical Occupations in Life Sciences

- 2221 Biological Technologists and Technicians
 - 2221.1 Biological Technologists
 - 2221.2 Biological Technicians

- 2222 Agricultural and Fish Products Inspectors
 - 2222.1 Fish and Fish Products Inspectors
 - 2222.2 Fruit and Vegetables Inspectors
 - 2222.3 Grain Inspectors
 - 2222.4 Meat Inspectors
 - 2222.5 Plant Protection Inspectors
- 2223 Forestry Technologists and Technicians
- 2224 Conservation and Fishery Officers
- 2225 Landscape and Horticultural Technicians and Specialists
 - 2225.1 Arborists and Tree Service Technicians
 - 2225.2 Golf Course Superintendents
 - 2225.3 Horticulturists
 - 2225.4 Landscape Designers and Landscape Architectural Technicians and Technologists
 - 2225.5 Landscape Gardeners
 - 2225.6 Landscapers
 - 2225.7 Lawn Care Specialists

223 Technical Occupations in Civil, Mechanical and Industrial Engineering

- 2231 Civil Engineering Technologists and Technicians
 - 2231.1 Civil Engineering Technologists
 - 2231.2 Civil Engineering Technicians
- 2232 Mechanical Engineering Technologists and Technicians
 - 2232.1 Mechanical Engineering Technologists
 - 2232.2 Mechanical Engineering Technicians
- 2233 Industrial Engineering and Manufacturing Technologists and Technicians
 - 2233.1 Industrial Engineering and Manufacturing Technologists
 - 2233.2 Industrial Engineering and Manufacturing Technicians
- 2234 Construction Estimators

224 Technical Occupations in Electronics and Electrical Engineering

- 2241 Electrical and Electronics Engineering Technologists and Technicians
 - 2241.1 Electrical and Electronics Engineering Technologists
 - 2241.2 Electrical and Electronics Engineering Technicians
- 2242 Electronic Service Technicians (Household and Business Equipment)
- 2243 Industrial Instrument Technicians and Mechanics
- 2244 Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors
 - 2244.1 Aircraft Instrument Mechanics and Technicians
 - 2244.2 Aircraft Electrical Mechanics and Technicians
 - 2244.3 Avionics Mechanics and Technicians
 - 2244.4 Avionics Inspectors

225 Technical Occupations in Architecture, Drafting, Surveying and Mapping

- 2251 Architectural Technologists and Technicians
- 2252 Industrial Designers
- 2253 Drafting Technologists and Technicians
 - 2253.1 Drafting Technologists
 - 2253.2 Drafting Technicians
- 2254 Land Survey Technologists and Technicians
 - 2254.1 Land Survey Technologists
 - 2254.2 Land Survey Technicians
- 2255 Mapping and Related Technologists and Technicians
 - 2255.1 Cartographic Technologists and Technicians
 - 2255.2 Photogrammetric Technologists and Technicians
 - 2255.3 Aerial Survey Technologists and Technicians
 - 2255.4 Remote Sensing Technologists and Technicians
 - 2255.5 Geographic Information Systems (GIS) Technologists and Technicians

226 Other Technical Inspectors and Regulatory Officers

- 2261 Nondestructive Testers and Inspectors
- 2262 Engineering Inspectors and Regulatory Officers
 - 2262.1 Motor Vehicles Defects Investigators
 - 2262.2 Railway Accident Investigation Officers
 - 2262.3 Airworthiness Inspectors
 - 2262.4 Inspectors, Weights and Measures
- 2263 Inspectors in Public and Environmental Health and Occupational Health and Safety
- 2264 Construction Inspectors

227 Transportation Officers and Controllers

- 2271 Air Pilots, Flight Engineers and Flying Instructors
 - 2271.1 Pilots
 - 2271.2 Flight Engineers (Second Officers)
 - 2271.3 Flying Instructors
- 2272 Air Traffic Control and Related Occupations
 - 2272.1 Air Traffic Controllers
 - 2272.2 Flight Dispatchers
 - 2272.3 Flight Service Specialists
- 2273 Deck Officers, Water Transport
- 2274 Engineer Officers, Water Transport
- 2275 Railway Traffic Controllers and Marine Traffic Regulators
 - 2275.1 Railway Traffic Controllers
 - 2275.2 Marine Traffic Regulators

228 Technical Occupations in Computer and Information Systems

- 2281 Computer and Network Operators and Web Technicians
 - 2281.1 Computer and Network Operators
 - 2281.2 Web Technicians
- 2282 User Support Technicians
- 2283 Systems Testing Technicians

2111.1 Physicists

Physicists conduct theoretical and applied research to extend knowledge of natural phenomena and to develop new processes and devices in fields such as electronics, communications, power generation and distribution, aerodynamics, optics and lasers, remote sensing, and medicine and health.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	1	1	3	3	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2*	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H5*

EDUCATION/TRAINING

8

Examples of Job Titles

- acoustics physicist
- aerodynamicist
- biophysicist
- experimental physicist
- health physicist
- medical physicist
- metrologist
- nuclear physicist
- optics physicist
- plasma physicist
- research scientist, aerospace
- research scientist, electronics
- research scientist, physics
- research scientist, remote sensing
- solid-state physicist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design and conduct research in experimental and theoretical physics
- **Verbal ability** to understand scientific terms and prepare research reports
- **Numerical ability** to apply advanced mathematical techniques and carry out precise measurements to formulate mathematical representations of physical phenomena
- **Spatial and form perception** to visualize geometric forms and abstract relationships and to observe slight differences in shapes and arrangements when assisting in the design and development of experimental, industrial and medical equipment, instruments and procedures
- **Innovative interest in synthesizing** information to carry out analyses of research data in order to formulate and substantiate new theories, concepts and laws related to the properties and interactions of matter and energy; and in developing new processes and devices in fields such as electronics, communications, power generations and distribution, aerodynamics, optics and lasers, remote sensing, and medicine and health
- **Objective interest in precision working** with scientific instruments to conduct experiments; and in designing and developing instruments and procedures
- **Directive interest in supervising** technologists and technicians; and in participating as members of research and development teams

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
1	Relevant
Hearing	
2*	Verbal interaction
Body Position	
1	Sitting

Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate
Hazards	
H5*	Radiation

Employment Requirements

Education/Training
8

- Physicists usually require a master's or doctoral degree in a field of physics, engineering physics, or in a related discipline.

Workplaces/Employers

Electronic, electrical and aerospace manufacturing companies

Hospitals

Power utilities

Processing, manufacturing, and research and consulting firms

Telecommunications companies

University and government research laboratories

Occupational Options

Mobility among specializations within physics and within astronomy is possible with experience.

Physicists may work closely with and perform some of the duties of engineers.

Mobility to the fields of meteorology, geophysics and other fields of science is possible.

Similar Occupations Classified Elsewhere

Atmospheric physicists (in 2114 *Meteorologists*)

Computer Engineers (Except Software Engineers) (2147)

Geophysicists and physical oceanographers (in 2113 *Geologists, Geochemists and Geophysicists*)

Remarks

Physicists may specialize in fields such as aeronomy and space, acoustics, atomic and molecular physics, biophysics, condensed matter or solid state physics, electromagnetics, fluids and aerodynamics, health physics, medical physics, metrology, particle physics, optics and laser physics, nuclear physics and plasma physics.

*Physical Activities

- For some occupations in this group, **Hearing 3** (Other sound discrimination) may also apply.

*Environmental Conditions

- For some occupations in this group, **Hazards H5** (Radiation) may also apply.

2111.2 Astronomers

Astronomers conduct observational and theoretical research to extend knowledge of the universe.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	1	1	3	3	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0*	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

astronomer
astrophysicist
cosmologist
radio astronomer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to observe, analyze and interpret data on positions, motions, composition, structures and characteristics of celestial bodies in order to extend knowledge of the origin, evolution and destiny of the universe
- **Verbal ability** to understand scientific terms and prepare research papers and reports
- **Numerical ability** to develop numerical models to extend knowledge of celestial bodies and cosmic radiation
- **Spatial perception** to visualize geometric forms, comprehend abstract relationships of geometry and logic, and identify mathematical irregularities
- **Form perception** to make visual comparisons and observe slight differences in shapes and arrangements when observing celestial bodies from ground observation stations and instruments
- **Innovative interest** in synthesizing information to design observational surveys and to conduct detailed analyses, observational studies and theoretical research
- **Objective interest** in precision working to develop, or participate in the development of, instruments and software for astronomical observation and analyses
- **Directive interest** in supervising technologists and technicians; and in preparing scientific papers and reports

Physical Activities

Vision

2 Near vision

Colour Discrimination

0* Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8

- Astronomers usually require a master's or doctoral degree in astronomy or in a related discipline.

Workplaces/Employers

Governments

Universities

Occupational Options

Mobility among specializations within physics and within astronomy is possible with experience.

Mobility to the fields of meteorology, geophysics and other fields of science is possible.

Similar Occupations Classified Elsewhere

Atmospheric physicists (in 2114 *Meteorologists*)

Computer Engineers (Except Software Engineers) (2147)

Geophysicists and physical oceanographers (in 2113 *Geologists, Geochemists and Geophysicists*)

Remarks

Astronomers may specialize in fields such as astrophysics, observational or optical astronomy, and radio astronomy.

*Physical Activities

- For some occupations in this group, Colour Discrimination 1 (Relevant) may also apply.

2112 Chemists

Chemists conduct research and analysis in support of industrial operations, product and process development, quality control, environmental control, medical diagnosis and treatment, biotechnology and other applications. They also conduct theoretical, experimental and applied research into basic chemical and biochemical processes to create and synthesize new products and processes.

Profile Summary										Examples of Job Titles									
APTITUDES										agricultural chemist analytical chemist biochemist chemist clinical chemist environmental chemist food chemist inorganic chemist oceanographic chemist organic chemist pharmacological chemist physical chemist polymer chemist quality control chemist research chemist soil chemist textile chemist									
G	V	N	S	P	Q	K	F	M											
1	1	1	1	1	1	3	3	3											
INTERESTS																			
IOD																			
DATA PEOPLE THINGS (DPT)																			
021																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	1	1	1	1	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1, H1, D3																			
EDUCATION/TRAINING																			
7, 8, R																			

Descriptor Profile

Main Characteristics

- Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:
- **General learning ability** to conduct fundamental and applied research into the synthesis and properties of chemical compounds and the mechanisms of chemical reactions
 - **Verbal ability** to participate in interdisciplinary research and development projects working with chemical engineers, biologists, microbiologists, agronomists, geologists and other professionals; and to prepare laboratory and research reports
 - **Numerical ability** to conduct programs of sample data collection and analysis in order to identify and quantify environmental toxicants
 - **Spatial perception** to visualize chemical reactions and changes in properties
 - **Form and clerical perception** to observe details in formulas and objects, and to make visual comparisons during analytical studies of physical and chemical properties of organic and inorganic substances
 - **Innovative interest in synthesizing** information to conduct research to develop new chemical formulations and processes and to devise new technical applications of industrial chemicals and compounds; and to investigate chemical aspects of the mechanisms of drug action, the diagnosis and treatment of disease, organ function and the assessment of health
 - **Objective interest in precision working** with instruments to analyze, synthesize, purify, modify and characterize chemical and biochemical compounds
 - **Directive interest in consulting** in a particular field of technical expertise; and in developing and conducting programs of analysis to ensure quality control of raw materials, chemical intermediates and final products; may supervise other chemists and chemical technicians and technologists

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H1 Dangerous chemical substances

Discomforts

- D3 Odours

Employment Requirements

Education/Training

7, 8, R

- A bachelor's degree in chemistry, biochemistry or in a related discipline is required.
- A master's or doctoral degree is usually required for employment as a research chemist.
- Licensing by a provincial association of chemists is compulsory in Quebec, and available but voluntary in Ontario and Alberta.

Workplaces/Employers

Chemical industries
 Development laboratories
 Educational establishments
 Government establishments
 Health establishments
 Manufacturing companies
 Metal industries
 Mineral industries
 Petrochemical industries
 Pharmaceutical industries
 Pulp and paper industries
 Quality control laboratories
 Research laboratories
 Utility companies

Occupational Options

Mobility among occupations in this group is possible with experience.

Mobility to occupations concerned with plant management, technical sales, and the development and management of regulatory programs and teaching professions is possible.

Similar Occupations Classified Elsewhere

Chemical Engineers (2134)

Geochemists (in 2113 *Geologists, Geochemists and Geophysicists*)

Metallurgists and material scientists (in 2115 *Other Professional Occupations in Physical Sciences*)

Molecular biologists (in 2121 *Biologists and Related Scientists*)

2113 Geologists, Geochemists and Geophysicists

Geologists, geochemists and geophysicists conduct programs of exploration and research to extend knowledge of the structure, composition and processes of the earth; to locate and identify hydrocarbon, mineral and groundwater resources, to plan and implement programs of hydrocarbon and mineral extraction, and to assess and mitigate the effects of development and waste disposal projects on the environment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	3	3	4	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

7, 8, R

Examples of Job Titles

development geologist
environmental geologist
exploration geologist
geochemist
geologist
geophysicist
glaciologist
groundwater geologist
hydrogeologist
hydrologist
mine geologist
mineralogist
oceanographer
paleontologist
petroleum geologist
petrologist
sedimentologist
seismologist
stratigrapher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct theoretical and applied research to extend knowledge of surface and subsurface features of the earth, its history and the operation of physical, chemical and biological systems that control its evolution; and to conduct geological and geophysical studies for regional development, site selection and the development of public works projects
- **Verbal ability** to prepare reports and to plan, direct and participate in analyses of survey data, well logs and other test results, maps, notes and cross-sections
- **Numerical ability** to develop applied software for analyses and interpretation of data
- **Spatial perception** to assess the movement of ground and surface waters, and to identify and anticipate natural risks such as slope erosion, landslides, soil instability, subsidence, earthquakes and volcanic eruptions
- **Form perception** to assess the size, orientation and composition of mineral ore bodies and hydrocarbon deposits
- **Innovative interest** in synthesizing information to plan and direct field studies, drilling and testing programs, and seismic, electromagnetic, magnetic, gravimetric, radiometric, radar and other remote sensing programs to extend knowledge of the earth; in assessing deposits and geological age; and in determining characteristics and suitability of materials for use as concrete aggregates, road fill and other applications
- **Objective interest in precision working** with instruments to identify deposits of construction materials; and in participating in remote sensing programs and in analyses of core samples, drill cuttings and rock samples to identify chemical, mineral, hydrocarbon and biological composition

- **Directive interest in consulting** to recommend the acquisition of lands, exploration and mapping programs, and mine development; and in advising in areas such as waste management, route and site selection and the restoration of contaminated sites; may supervise and co-ordinate well drilling, completion and workovers, and mining activities

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Employment Requirements

Education/Training
7, 8, R

- A university degree in geology, geochemistry, geophysics or a related discipline is required.
- A master's or doctoral degree in geophysics, physics, mathematics or engineering may be required for employment as a geophysicist.
- Registration as a professional geologist or professional geophysicist by a provincial or territorial association of professional engineers or geologists and geophysicists is often required for employment and to practise in Newfoundland and Labrador, Alberta, British Columbia, Nunavut and the Northwest Territories.
- Geologists and geophysicists are eligible for registration following graduation from an accredited educational program and after several years of supervised work experience and, in some provinces, after passing a professional practice examination.
- In some provinces or territories, those who are not graduates of an accredited educational program are eligible for registration after completing a six- to eight-year term of supervised employment and successfully passing examinations.

Workplaces/Employers

Consulting engineering, geology and geophysics firms

Educational institutions

Governments

Mining and petroleum companies

Self-employment

Occupational Options

Mobility between specializations in this group is possible with experience.

Advancement is possible to management positions in mining, petroleum and other industries.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Chemists (2112)

Geological Engineers (2144)

Physicists and Astronomers (2111)

Remarks

Geologists may specialize in the following fields: coal geology, environmental geology, geochronology, geomorphology or surficial geology, geotechnics, hydrogeology, marine geology, mineral deposits or mining, mineralogy, paleontology, petroleum geology, petrology, sedimentology, stratigraphy or biostratigraphy, structural geology or tectonics, volcanology or in other fields.

Geochemists may specialize in analytical geochemistry, hydrogeochemistry, mineral or petroleum geochemistry or in other fields.

Geophysicists may specialize in earth physics, oceanography, petroleum or in other fields.

Meteorologists analyze and forecast weather, provide consultation on atmospheric phenomena and conduct research into the processes and phenomena of weather, climate and atmosphere.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	1	2	3	4	4	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

121

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

7, 8, R

Examples of Job Titles

- air quality meteorologist
- atmospheric physicist
- climatologist
- hydrometeorologist
- meteorologist
- weather forecaster

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **spatial** and **form perception** to analyze and interpret data obtained from meteorological stations, radar and satellite imagery, and computer model outputs and to participate in studies of the effects of weather on the environment
- **Verbal ability** to produce and disseminate weather forecasts and reports using a variety of media, and make scientific presentations, publish reports, articles and popular texts for specialists, users and the general public
- **Numerical ability** to develop and test mathematical computer models of weather and climate for experimental and operational use
- **Innovative interest** in **co-ordinating** research on atmospheric phenomena, weather and climate; and in conducting research into the atmospheric dispersion and physical and chemical transformation of pollutants; may engage in the design and development of new equipment and procedures for meteorological data collection, remote sensing and related applications
- **Objective interest** in **precision working** with equipment and instruments to analyze the impact of industrial projects and human activity on the climate and quality of the air
- **Directive interest** in **consulting** to provide advice to outside agencies, professionals and researchers regarding the use and interpretation of climatological information; in providing consulting services for industries such as aviation, marine, agriculture and tourism, and to the general public; and to work with the social science, engineering and economic communities to develop appropriate mitigation strategies for the impacts from industrial and human activity

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
7, 8, R

- A bachelor's or master's degree in meteorology, physics, mathematics or in a related field is required.
- A doctoral degree is usually required for employment as a research scientist in meteorology.
- Formal training of nine months is provided by Environment Canada for operational meteorologists.
- Membership in the Canadian Meteorological and Oceanographic Society or, in Quebec, in l'Association professionnelle des météorologistes du Québec is available, but voluntary, for qualified meteorologists.

Workplaces/Employers

Environment Canada
Military
Private consulting companies
Provincial governments
Resource and utility companies
Self-employment

Similar Occupations Classified Elsewhere

Announcers who broadcast weather forecasts (in 5231 *Announcers and Other Broadcasters*)

Meteorological Technicians (2213)

2115.1 Metallurgists

Metallurgists conduct theoretical and applied research in metallurgy.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	4	3	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8

Examples of Job Titles

metallurgist

physical metallurgist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct studies into the properties and production of metals and alloys
- **Verbal ability** to consult with engineers and company officials to develop methods of manufacturing alloys, to minimize air pollution, to develop and implement inspection and testing procedures, and to gather information through searches of publications, attendance at technical meetings and visits to processing departments and plants
- **Numerical ability** to measure, record and interpret data
- **Spatial and form perception** to conduct microscopic, X-ray, X-ray diffraction and spectrographic studies of metals and alloys, and to determine types of metals to be used in relation to design and fabrication taking into consideration magnetic and electronic properties such as strength, weight, temperature resistance and rigidity
- **Innovative interest in synthesizing** information to evaluate variables that influence physical and thermoelectric properties of unusual metals, and to assess the properties of metals during processes such as rolling, extruding, casting, forming, welding, corrosion protection, alloying, heat and mechanical treatments; and in developing hotworking and cooling processes to obtain desired characteristics such as hardness, grain size, heat resistance and strength
- **Objective interest in precision working** with instruments to test alloys in tension, compression, impact bending and fatigue devices to study their engineering properties and ensure that they will comply with prescribed standards
- **Directive interest in consulting** to advise on the shortcomings of metals in use and anticipated use; and in training mill testers and inspectors; may supervise and co-ordinate the work of technologists and technicians

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 1 Relevant
- Hearing
- 1 Limited
- Body Position
- 3 Sitting, standing, walking
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 7, 8
- A bachelor's degree in metallurgy, physics, chemistry, or a related physical science discipline is required.
 - A master's or doctoral degree is usually required for employment as a research scientist.

Workplaces/Employers

- Educational institutions
- Governments
- Industrial establishments

Occupational Options

- Mobility among specializations in this group may be possible with experience.
- Mobility is possible to other fields of physical science or to management or regulatory program management with experience.

Similar Occupations Classified Elsewhere

- Chemists (2112)*
- Metallurgical and Materials Engineers (2142)*

2115.2 Soil Scientists

Soil scientists conduct theoretical and applied research in soil science.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	4	3	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

7, 8

Examples of Job Titles

soil scientist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research into the composition, distribution and evolution of soils
- **Verbal ability** to understand the terms associated with agricultural sciences, and to express ideas clearly; may advise rural residents on land use and soil management
- **Numerical ability** to carry out data analyses
- **Spatial and form perception** to study composition of soil in order to determine microbe content of organic matter, fertility and the presence of nitrogen, oxygen and other elements, and to study the physical characteristics and chemical properties of soils to determine capabilities and limitations of potential growth, water absorption capacity, degree of acidity and texture
- **Innovative interest** in synthesizing information to classify soil management practices and study their effects on long-range productivity; and in investigating problems of strip cropping, contour ploughing, terracing and other soil conservation practices to reduce soil and mineral erosion and to retain sufficient water supplies for proper irrigation; may examine problems of layering and drainage of soils used in foundations for roads, dams, buildings and other structures
- **Objective interest** in **precision working** to rebuild deteriorated, over-acidic and barren soils by stabilizing run-off and applying green manure crops, lime, nitrates, compost residue and other nutrients and fertilizers
- **Directive interest** in **consulting** to advise on issues related to soil management; and in directing soil surveys to plot boundaries of deposits on maps; may supervise and co-ordinate the work of technologists and technicians

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L3* Outside

Employment Requirements

Education/Training

7, 8

- A bachelor's degree in metallurgy, physics, chemistry, or a related physical science discipline is required.
- A master's or doctoral degree is usually required for employment as a research scientist.

Workplaces/Employers

Educational institutions

Governments

Industrial establishments

Occupational Options

Mobility among specializations in this group may be possible with experience.

Mobility to other fields of physical science or to management or regulatory program management is possible with experience.

Similar Occupations Classified Elsewhere

Chemists (2112)

Metallurgical and Materials Engineers (2142)

Remarks

*Environmental Conditions

- For some occupations in this group, Location L3 (Outside) may also apply.

2115.3 Materials Scientists

Materials scientists conduct theoretical and applied research into the properties, composition and production of materials.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	4	3	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8

Examples of Job Titles

- ballistics examiner
- materials scientist
- research scientist – ceramics
- research scientist – composite materials

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research into the properties, composition and production of materials such as ceramics and composite materials
- **Verbal ability** to understand and use scientific and technical terms and to prepare reports and studies
- **Numerical ability** to measure and record data from experiments on ceramics, composite materials and other materials
- **Spatial and form perception** to observe and compare findings in experiments
- **Innovative interest** in synthesizing information to conduct and interpret research findings and extend knowledge of materials
- **Objective interest** in precision working with equipment to conduct research to identify properties and composition of materials
- **Directive interest** in consulting to advise on issues related to production of materials; and in planning and directing research studies

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7, 8

- A bachelor's degree in metallurgy, physics, chemistry, or a related physical science discipline is required.
- A master's or doctoral degree is usually required for employment as a research scientist.

Workplaces/Employers

Educational institutions
Governments
Industrial establishments

Occupational Options

Mobility among specializations in this group may be possible with experience.

Mobility to other fields of physical science or to management or regulatory program management is possible with experience.

Similar Occupations Classified Elsewhere

Chemists (2112)

Metallurgical and Materials Engineers (2142)

2121.1 Biologists

Biologists conduct basic and applied research to extend knowledge of living organisms, to manage natural resources, and to develop new practices and products related to medicine and agriculture.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	3	4	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H2

EDUCATION/TRAINING

7, 8, +

Examples of Job Titles

anatomist
biologist
botanist
ecologist
embryologist
marine biologist
physiologist
zoologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and conduct studies of the environment and the population, distribution, structures, characteristics and behaviour of plants and animals
- **Verbal ability** to prepare reports and plans for management of renewable resources
- **Numerical ability** to understand and apply advanced mathematics for research purposes
- **Spatial and form perception** to study, identify and classify plant and animal specimens
- **Innovative interest in synthesizing** information to conduct ecological and environmental impact studies and to prepare reports, and to develop new practices in biological research
- **Objective interest in precision working** with instruments and equipment to conduct experiments in plant and animal growth, heredity and breeding
- **Directive interest in consulting** to advise on issues related to biological processes and research and the development of new products; may supervise biological technologists and technicians and other scientists

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H2 Biological agents

Employment Requirements

Education/Training
7, 8, +

- A bachelor's degree in biology or in a related discipline is required for biologists.
- A master's or doctoral degree in biology or a related discipline is required for employment as a research scientist in biology.
- Post-doctoral research experience is usually required before employment in academic departments or research institutions.

Workplaces/Employers

Chemical companies
Environmental consulting companies
Health and educational institutions
Laboratory and field settings in governments
Pharmaceutical and biotechnical companies
Resource and utility companies

Similar Occupations Classified Elsewhere

Agricultural and biomedical engineers
(in 2148 *Other Professional Engineers, n.e.c.*)

Biochemists (in 2112 *Chemists*)

Specialists in laboratory medicine (in 3111 *Specialist Physicians*)

Remarks

Biologists and related scientists may specialize at the macroscopic level, in fields such as botany, zoology, ecology and marine biology or, at the cellular and molecular level, in fields such as genetics, immunology, pharmacology, toxicology, physiology, pathology, bacteriology and virology.

2121.2 Microbiologists and Cell and Molecular Biologists

Microbiologists conduct basic and applied research to extend knowledge of living micro-organisms, to manage natural resources, and to develop new practices and products related to medicine and agriculture.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	3	4	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

7, 8, +

Examples of Job Titles

bacteriologist
cell biologist
geneticist
histologist
immunologist
microbiologist
molecular biologist
parasitologist
pharmacologist
protozoologist
toxicologist
virologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research into the structures, functions, ecology, biotechnology and genetics of micro-organisms including bacteria, fungi, protozoans and algae
- **Verbal ability** to understand the meaning and use of biological terms and to communicate both orally and in writing
- **Numerical ability** to understand and apply advanced mathematics for research purposes
- **Spatial and form perception** to study the structure and function of human, animal and plant tissues and cells, and to study the identification of human, plant and animal pathogens and toxins
- **Innovative interest in synthesizing** information to study the effects and control of human, plant and animal pathogens and toxins
- **Objective interest in precision working** with instruments to conduct clinical and laboratory studies to test, evaluate and screen drugs and pharmaceuticals, and to conduct molecular and biochemical studies and experiments into genetic expression, gene manipulation and recombinant DNA technology
- **Directive interest in consulting** to advise on issues related to the development of new practices and products at the cellular and molecular level; may supervise biological technologists and technicians and other scientists

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

7, 8, +

- A bachelor's degree in biology or in a related discipline is required for biologists.
- A master's or doctoral degree in biology or a related discipline is required for employment as a research scientist in biology.
- Post-doctoral research experience is usually required before employment in academic departments or research institutions.

Workplaces/Employers

Chemical companies

Environmental consulting companies

Health and educational institutions

Laboratory and field settings in governments

Pharmaceutical and biotechnical companies

Resource and utility companies

Similar Occupations Classified Elsewhere

Biochemists (in 2112 *Chemists*)

Biomedical and bio-resource engineers (in 2148 *Other Professional Engineers, n.e.c.*)

Specialists in laboratory medicine (in 3111 *Specialist Physicians*)

Remarks

Biologists and related scientists may specialize at the macroscopic level, in fields such as botany, zoology, ecology and marine biology or, at the cellular and molecular level, in fields such as genetics, immunology, pharmacology, toxicology, physiology, pathology, bacteriology and virology.

Forestry professionals conduct research, develop plans and administer and direct programs related to the management and harvesting of forest resources.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	3	3	3	3	4	3	3

INTERESTS

ISD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

7+, R

Examples of Job Titles

- appraisal forester
- consulting forester
- district forester
- forest engineer
- forester
- forestry superintendent
- professional forester
- regional inventory officer – forestry
- registered professional forester (RPF)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and direct forest surveys and related studies, and to establish short- and long-term plans for management of forest lands and resources
- **Verbal ability** to negotiate terms and conditions of agreements and contracts for forest harvesting, forest management and the leasing of forest lands, and to prepare reports and recommendations
- **Clerical perception** to monitor contracts and the results of forestry activities, and to ensure that they adhere to government regulations and company objectives
- **Innovative interest in precision working** to conduct advanced research into areas such as tree improvement, nursery seedling production, forest soils, forest ecology, forest mensuration and forest operations
- **Social interest in synthesizing** information to plan and conduct public relations, educational and extension programs related to forestry; and in providing advice and recommendations as consultants on forestry issues to private woodlot owners, companies and municipal, provincial and federal governments
- **Directive interest in supervising** programs to plan and direct woodlands harvesting, reforestation, silviculture, fire prevention and fire suppression programs, road building, wildlife management, environmental protection and insect and vegetation control programs; and in developing and overseeing programs for tree seedling production and woodlands nursery operations

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training

7+, R

- A bachelor's degree in forestry or forestry engineering is required.
- Certification as a forester or forest engineer by provincially chartered associations is required in provinces having such associations.
- A two-year practicum of supervised work experience and professional examinations are usually required before registration.

Workplaces/Employers

Consulting companies
Educational institutions
Federal government
Forest industry
Forestry-related industries
Provincial governments
Self-employment

Occupational Options

With experience, mobility is possible to management positions in government and industry.

Supervisory and senior occupations in this group require additional experience.

Similar Occupations Classified Elsewhere

Forest economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Forestry and woodlands operations managers (in 0811 *Primary Production Managers (Except Agriculture)*)

Managers of government forestry policy and program administration (in 0412 *Government Managers – Economic Analysis, Policy Development and Program Administration*)

Managers of research in forestry (in 0212 *Architecture and Science Managers*)

2123 Agricultural Representatives, Consultants and Specialists

Agricultural representatives, consultants and specialists provide assistance and advice to farmers on all aspects of farm management, cultivation, fertilization, harvesting, soil erosion and composition, disease prevention, nutrition, crop rotation and marketing.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	2	4	3	3	4	3	3

INTERESTS

ISD

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1*	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, R

Examples of Job Titles

agricultural consultant
agricultural extension supervisor
agricultural livestock specialist
agricultural representative
agricultural soil and crop specialist
agriculturist
agrologist
agronomist
consulting agrologist
crop specialist
farm management consultant
field service agent
growers' advisor
professional agrologist (P.Ag.)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide counselling and advisory services to farmers on crop cultivation and fertilization, harvesting, animal and poultry care, disease prevention, farm management, farm financing, marketing and other agricultural subjects
- **Verbal ability** to understand technical terms in order to prepare research reports
- **Numerical ability** to carry out analyses of agricultural data
- **Innovative interest** in co-ordinating information to conduct research and evaluate agricultural data; and in maintaining records of services provided and the results achieved
- **Social interest** in liaising with researchers, educators and government and business managers on farming and agriculture
- **Directive interest** in consulting to provide counselling and advisory services, and to conduct advisory information sessions and lectures for farmers and other groups

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1* Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, R

- A bachelor's or master's degree in agriculture or in a related science is required.
- Membership or eligibility for membership in a provincial institute of agrology is usually required.
- In Quebec, membership in the professional corporation for agrologists is mandatory.

Workplaces/Employers

Businesses, institutions and governments that assist the farming community

Self-employment

Similar Occupations Classified Elsewhere

Agricultural engineers (in 2148 *Other Professional Engineers, n.e.c.*)

Agrology technologists and technicians (in 2221 *Biological Technologists and Technicians*)

Biologists and Related Scientists (2121)

Landscape and Horticultural Technicians and Specialists (2225)

Managers of agricultural extension and consulting services (in 0212 *Architecture and Science Managers*)

Managers responsible for agricultural economic policy (in 0412 *Government Managers – Economic Analysis, Policy Development and Program Administration*)

Remarks

Agricultural representatives, consultants and specialists may specialize in specific aspects of agriculture such as animal science, field crops, horticulture, soil science, irrigation or drainage, farm management, marketing, agricultural economics, land use, environmental management, appraisal or extension and education.

*Physical Activities

- For some occupations in this group, **Body Position 3** (Sitting, standing, walking) may also apply.

2131 Civil Engineers

Civil engineers plan, design, develop and manage projects for the construction or repair of buildings, earth structures, powerhouses, roads, airports, railways, rapid transit facilities, bridges, tunnels, canals, dams, ports and coastal installations and systems related to highway and transportation services, water distribution and sanitation. Civil engineers may also specialize in foundation analysis, building and structural inspection, surveying, geomatics and municipal planning.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	1	2	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

bridge engineer
civil engineer
construction engineer
environmental engineer
geodetic engineer
geomatics engineer
highway engineer
hydraulics engineer
municipal engineer
project engineer, construction
public works engineer
sanitation engineer
structural engineer
surveying engineer
traffic engineer
transportation engineer
water management engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and design major civil projects such as buildings, roads, bridges, dams, water and waste management systems and structural steel fabrications, and to review and evaluate tenders for construction projects
- **Verbal ability** to confer with clients and other members of engineering teams, and to prepare contract documents and various reports
- **Numerical ability** to analyze data and review calculations and cost estimates
- **Spatial and form perception** to interpret and review surveys and civil design work
- **Innovative interest in synthesizing** information to conduct research in order to determine project requirements, to develop construction specifications and procedures, and to conduct feasibility studies, economic analyses, municipal and regional traffic studies, environmental impact studies and other investigations
- **Objective interest in precision working** to conduct technical analyses of survey and field data for development of topographic, soil, hydrological and other information; in conducting field services for civil works; and in monitoring air, water and soil quality and developing procedures to clean up contaminated sites
- **Directive interest in supervising** technicians, technologists and other engineers; and in overseeing land surveys and construction work, in approving survey and civil design work, in evaluating and recommending building and construction materials, in approving designs, calculations and cost estimates, in ensuring that construction plans meet guidelines and specifications of building codes and other regulations, and in establishing and monitoring construction work schedules

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in civil engineering or in a related engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

All levels of government
Construction firms
Consulting engineering companies
Industry
Self-employment

Occupational Options

There is considerable mobility among civil engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, urban planning, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Chemical environmental engineers (in 2134 *Chemical Engineers*)

Construction Managers (0711)

Engineering Managers (0211)

Geological Engineers (2144)

Transportation Managers (0713)

2132 Mechanical Engineers

Mechanical engineers research, design and develop machinery and systems for heating, ventilating and air conditioning, power generation, transportation, processing and manufacturing. They also perform duties related to the evaluation, installation, operation and maintenance of mechanical systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L2

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

acoustics engineer
automotive engineer
design engineer – mechanical
engineer, power generation
heating, ventilating and air conditioning (HVAC) engineer
mechanical engineer
nuclear engineer
piping engineer
refrigeration engineer
robotics engineer
thermal design engineer
tool engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research into the feasibility, design, operation and performance of mechanisms, components and systems, to evaluate tenders for industrial construction and maintenance, and to plan and manage projects
- **Verbal ability** to prepare reports and contract documents, and to evaluate tenders for industrial construction and maintenance
- **Numerical ability** to prepare material, cost and timing estimates, and to review calculations and cost estimates
- **Spatial perception** to prepare design specifications and review design work
- **Form perception** to inspect the installation, modification and commissioning of mechanical systems at construction sites and in industrial facilities
- **Innovative interest** in synthesizing information to develop maintenance standards, schedules and programs, and to investigate mechanical failures and unexpected maintenance problems
- **Objective interest** in **precision working** to design power plants, machines, components, tools, fixtures and equipment; and to analyze the dynamics and vibrations of mechanical systems and structures
- **Directive interest** in **supervising** technicians, technologists and other engineers; and in overseeing the installation, modification and commissioning of mechanical systems at construction sites and in industrial facilities, in providing guidance to industrial maintenance crews, and in approving designs, calculations and cost estimates

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate

Employment Requirements

Education/Training
7, 8, +, R

- A bachelor's degree in mechanical engineering or in a related engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting firms
Manufacturing industries
Power-generating utilities
Processing industries
Self-employment
Transportation industries

Occupational Options

There is considerable mobility among mechanical engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering sales, marketing or management.

Mechanical engineers work closely with civil, electrical, aerospace, chemical, industrial and other engineers, and mobility is possible among some fields of specialization in these disciplines.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Engineering Managers (0211)

Industrial and Manufacturing Engineers (2141)

Metallurgical and Materials Engineers (2142)

Power engineers or stationary engineers (in 7351 *Stationary Engineers and Auxiliary Equipment Operators*)

2133

Electrical and Electronics Engineers

Electrical and electronics engineers design, plan, research, evaluate and test electrical and electronic equipment and systems.

Profile Summary

Aptitudes

G	V	N	S	P	Q	K	F	M
1	2	1	2	2	4	4	4	4

Interests

IOD

Data People Things (DPT)

031

Physical Activities (PA)

V	C	H	B	L	S
2	1	2	3	1	1

Environmental Conditions (EC)

L1

Education/Training

7, 8, +, R

Examples of Job Titles

- avionics engineer
- control systems engineer
- design engineer, electrical
- distribution planning engineer, electrical
- electrical engineer
- electrical network engineer
- electronics engineer
- instrumentation and control engineer
- planning engineer, electrical systems
- process control engineer, electrical
- roadway lighting design engineer
- television systems engineer
- test engineer, electronics

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- General learning ability to conduct research into the feasibility, design, operation and performance of electrical generation and distribution networks, electrical machinery and components and electronic communications, instrumentation and control systems, equipment and components
- Verbal ability to prepare reports and contract documents, and to evaluate tenders for construction and maintenance
- Numerical ability to prepare material cost and timing estimates
- Spatial perception to prepare design specifications
- Form perception to inspect the installation, modification, testing and operation of systems and equipment
- Innovative interest in synthesizing information to develop maintenance and operating standards and to investigate failures
- Objective interest in precision working to design electrical and electronic circuits, components, systems and equipment
- Directive interest in supervising technicians, technologists, programmers, analysts and other engineers; and in overseeing the installation, modification, testing and operation of systems and equipment

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in electrical or electronics engineering or in an appropriate related engineering discipline is required.
- A master's or doctoral degree in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Communications companies

Consulting firms

Electrical utilities

Governments

Manufacturers of electrical and electronic equipment

Manufacturing industries

Processing industries

Transportation industries

Occupational Options

Specialization in electrical and electronic engineering fields may occur either in educational programs or in the workplace.

There is considerable mobility among electrical and electronic engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Electrical and Electronics Engineering Technologists and Technicians (2241)

Engineering Managers (0211)

Software Engineers (2173)

Remarks

Electrical and electronics engineers may specialize in a number of areas including electrical design for residential, commercial or industrial installations, electrical power generation and transmission, and instrumentation and control systems.

2134 Chemical Engineers

Chemical engineers research, design, and develop chemical processes and equipment, oversee the operation and maintenance of industrial chemical, plastics, pharmaceutical, resource, pulp, and food processing plants and perform duties related to chemical quality control, environmental protection and biochemical and biotechnical engineering.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H1, D3

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

adhesives engineer
biochemical engineer
biotechnical engineer
chemical engineer, environmental
chemical process engineer
industrial hygiene engineer
liquid fuels engineer
petrochemical engineer
polymer engineer
pulp and paper engineer
refinery engineer
waste treatment engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct economic and technical feasibility studies in the areas related to chemical, petroleum, pulp and paper, food and other processing industries; may work in an administrative capacity involved in the development of guidelines and specifications for environmental protection, the handling of dangerous chemicals and standards for foods, materials and consumer goods
- **Verbal ability** to prepare contract documents and evaluate tenders for the process aspects of industrial construction
- **Numerical ability** to apply advanced mathematical computations for analyzing research data
- **Spatial and form perception** to design chemical processing and associated plants and equipment
- **Innovative interest in synthesizing** information to conduct research into the development and improvement of chemical engineering processes, reactions and materials, and to establish and conduct quality control programs, operating procedures and control strategies to ensure consistency and adherence to standards for raw materials, products and waste products and emissions
- **Objective interest in precision working** to test chemical processing, and associated plants and equipment, to evaluate chemical process technology and equipment, and to determine production specifications
- **Directive interest in supervising** technicians, technologists and other engineers; and in overseeing the construction, modification, operation and maintenance of pilot plants, processing units and processing plants

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H1 Dangerous chemical substances

Discomforts

- D3 Odours

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in chemical engineering or in a related engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.

- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting firms

Educational institutions

Governments

Manufacturing industries

Processing industries

Research institutions

Occupational Options

There is considerable mobility among chemical engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Chemical engineers work closely with chemists and other scientists and engineers and mobility is possible among some fields of specialization.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Agricultural, bio-resource and food processing engineers (in 2148 *Other Professional Engineers, n.e.c.*)

Chemists (2112)

Civil environmental engineers (in 2131 *Civil Engineers*)

Engineering Managers (0211)

Metallurgical and Materials Engineers (2142)

Petroleum Engineers (2145)

Process control engineers with electrical or electronic specialization (in 2133 *Electrical and Electronics Engineers*)

Remarks

Chemical engineers may specialize in the products and processes of a particular industry such as pulp and paper manufacturing, pharmaceuticals, petroleum refining, energy processing, plastics, metal extraction and refining, or adhesives and coatings production. They may also specialize in areas that are in various industries such as process control, pollution control or fermentation processes.

2141

Industrial and Manufacturing Engineers

Industrial and manufacturing engineers conduct studies, and develop and supervise programs to achieve the best use of equipment, human resources, technology, materials and procedures in order to enhance efficiency and productivity.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	2	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

engineer, computer integrated manufacturing (CIM)
fire prevention engineer
industrial engineer
manufacturing engineer
plant engineer
production engineer
quality control engineer
safety engineer
work measurement engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct studies and implement programs to determine optimum inventory levels for production, to allow optimum use of machinery, materials and resources, and to conduct studies of the reliability and performance of plant facilities, and production and administrative systems
- **Verbal ability** to understand and use technical terms in order to determine human resource and skill requirements, and develop training programs, performance standards and evaluation systems
- **Numerical ability** to analyze costs of production and develop wage and incentive programs
- **Spatial and form perception** to plan and design plant layouts and facilities, and to evaluate and assess industrial facilities
- **Innovative interest in synthesizing** information to develop maintenance standards, schedules and programs, to develop flexible and integrated manufacturing systems and procedures, and to establish programs and conduct studies to enhance industrial health and safety, and identify and correct fire and other hazards
- **Objective interest in precision working** to design, develop and conduct time studies and work simplification programs, and to study new machinery and facilities
- **Directive interest in supervising** technicians, technologists, analysts, administrative staff and other engineers; and in recommending and selecting efficient combinations of new machinery and facilities

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in industrial engineering or in a related engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting firms
Financial institutions
Government institutions
Health care and other institutions
Manufacturing companies
Processing companies
Self-employment

Occupational Options

Industrial engineers develop and implement organizational and management systems, and manufacturing engineers design production processes.

There is considerable mobility among industrial engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, administration or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Computer Engineers (Except Software Engineers) (2147)

Engineering Managers (0211)

Mechanical Engineers (2132)

Metallurgical and Materials Engineers (2142)

Organizational analysts (in 1122 Professional Occupations in Business Services to Management)

2142 Metallurgical and Materials Engineers

Metallurgical and materials engineers conduct studies of the properties and characteristics of metals and other non-metallic materials and plan, design and develop machinery and processes to concentrate, extract, refine and process metals, alloys and other materials such as ceramics, semiconductors and composite materials.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	3	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

ceramics engineer
corrosion engineer
electrometallurgical engineer
foundry engineer
hydrometallurgical engineer
materials engineer
metallurgical engineer
physical metallurgical engineer
pyrometallurgical engineer
welding engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct studies and to design, develop and specify the processes and machinery to concentrate, extract, refine and process metals from ores; and to co-ordinate production, testing and control of metal refining, smelting and foundry operations and non-metallic materials production
- **Verbal ability** to advise staff on process changes, reagent consumption and electric current adjustments required to obtain desired processes, and on quality control
- **Numerical ability** to prepare operational budgets and evaluate economic feasibilities
- **Spatial and form perception** to conduct studies on the properties and characteristics of materials
- **Innovative interest in synthesizing** information to design, develop and specify the processes for moulding, shaping, forming and thermal treatment of metals, alloys and metallic systems ceramics, semiconductors and other materials
- **Objective interest in precision working** to conduct chemical and physical analytical studies, failure analyses and other studies and operational testing
- **Directive interest in supervising** technologists, technicians, other engineers and scientists; and in recommending material selection, design of materials, corrosion-control measures, operational testing and other procedures

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
1	Relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7, 8, +, R

- A bachelor's degree in metallurgical, materials, ceramic or chemical engineering or in a related engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting engineering firms
Educational institutions
Governments
Manufacturing companies
Metal processing companies
Mining companies
Research institutions

Occupational Options

There is considerable mobility among engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Metallurgical and materials engineers work closely with other engineers and scientists and mobility is possible among some fields of specialization.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Chemical Engineers (2134)

Chemists (2112)

Engineering Managers (0211)

Mechanical Engineers (2142)

Mining Engineers (2143)

Physical metallurgists and materials scientists (in 2115 *Other Professional Occupations in Physical Sciences*)

Remarks

Metallurgical engineers research and develop new alloys and systems for extracting metal from ores; materials engineers research and develop new non-metallic materials with physical characteristics to meet specific requirements.

2143 Mining Engineers

Mining engineers plan, design, organize and supervise the development of mines, mine facilities, systems and equipment; and plan, organize and supervise the extraction of metallic and non-metallic minerals and ores from underground and surface mines.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	1	3	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

mine design engineer
mine development engineer
mine layout engineer
mine production engineer
mine safety engineer
mine ventilation engineer
mineral engineer
mining engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct surveys and studies of ore, mineral and coal deposits to assess the economic and environmental feasibility of potential mining operations, and to determine safe and efficient means of mining deposits
- **Verbal ability** to advise on drilling and blasting methods for mining, construction and demolition, to prepare project reports, and to collaborate with other engineering specialists
- **Numerical ability** to prepare operations and project estimates and schedules
- **Spatial and form perception** to design shafts, ventilation systems, mine services, haulage systems and supporting structures
- **Innovative interest in synthesizing** information to plan and design or select mining and mineral treatment machinery and equipment, to determine drilling and blasting methods, and to implement and co-ordinate mine safety programs
- **Objective interest in precision working** to design, develop and implement computer applications for operations, such as mine design, modelling and mapping, and for monitoring mine conditions
- **Directive interest in supervising** and co-ordinating the work of technicians, technologists, survey personnel and other engineers and scientists, and in planning, organizing and supervising the development of mines, mine structures and mine operations and maintenance

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in mining engineering or in a related engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting engineering companies

Educational institutions

Governments

Manufacturers

Mining companies

Research institutions

Occupational Options

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Mining engineers work closely with geologists, geological engineers, metallurgical engineers, and other engineers and scientists, and mobility is possible between some fields of specialization.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Engineering Managers (0211)

Geological Engineers (2144)

Geologists, Geochemists and Geophysicists (2113)

Metallurgical and Materials Engineers (2142)

Mine managers (in 0811 Primary Production Managers (Except Agriculture))

Petroleum Engineers (2145)

Geological engineers conduct geological and geotechnical studies to assess suitability of locations for civil engineering, mining and oil and gas projects; and plan, design, develop and supervise programs of geological data acquisition and analysis and the preparation of geological engineering reports and recommendations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	3	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

geological engineer
geophysical engineer
hydrogeological engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, develop and co-ordinate programs of geotechnical, geological, geophysical and geohydrological data acquisition, analysis and mapping to assist in the development of civil engineering, mining, petroleum and waste management projects, and for regional development
- **Verbal ability** to prepare research and other reports
- **Numerical ability** to perform quantitative analysis of seismic and other geological data
- **Spatial and form perception** to conduct surveys and studies of ore deposits, ore reserve calculations and mine design
- **Innovative interest in synthesizing** information to conduct studies of ground-water flow and contamination; to develop guidelines for site selection, treatment and construction; to analyze and prepare recommendations for construction and improvement projects such as rock excavation, pressure grouting and hydraulic-channel erosion control; and to analyze and prepare reports on settlement of buildings, stability of slopes and fills, and probable effects of landslides, and earthquakes to support construction and civil engineering projects
- **Objective interest in precision working** to design, develop and implement computer applications for geophysics, geochemistry, geology, mapping and related fields, and to plan, develop, co-ordinate and conduct studies in mining exploration, evaluation and feasibility
- **Directive interest in supervising** technologists, technicians, and other engineers and scientists; and in providing recommendations on the suitability of locations for civil engineers, mining and oil and gas projects

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in geological engineering or in a related discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces / Employers

Consulting engineering companies
Educational institutions
Electrical utility companies
Governments
Mining companies
Petroleum companies
Research institutions

Occupational Options

There is considerable mobility among engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Geological engineers work closely with geologists, and other scientists and engineers and mobility is possible among some fields of specialization.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Civil Engineers (2131)

Engineering Managers (0211)

Geologists, Geochemists and Geophysicists (2113)

Land Surveyors (2154)

Mining Engineers (2143)

Petroleum Engineers (2145)

2145 Petroleum Engineers

Petroleum engineers conduct studies for the exploration, development and extraction of oil and gas deposits; and plan, design, develop and supervise projects for the drilling, completion, testing and re-working of oil and gas wells.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	3	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H8

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

drilling engineer, oil and gas
petroleum engineer
petroleum engineer, completion
production engineer, oil and gas
reservoir engineer, petroleum
subsea engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to direct and monitor oil- and gas-drilling operations, to develop drilling programs and select sites, and to specify programs for corrosion control and oil and gas treatment
- **Verbal ability** to understand technical terms when preparing reports
- **Numerical ability** to analyze reservoir rock and fluid data in order to design optimum recovery methods and to predict reservoir performance and reserves
- **Spatial perception** to develop specifications for well modification and stimulation programs, and to study geological surveys and other data including samples, to conduct feasibility assessment studies for developing new oil and gas fields
- **Innovative interest in synthesizing** information to monitor and forecast oil and gas reservoir performance and recommend oil recovery techniques which extend the economic life of wells, and to design, develop and co-ordinate the installation, maintenance and operation of subsea well-head and production equipment
- **Objective interest in precision working** to specify drilling fluids, bit selection, drill stem testing procedures and equipment, and to design and select artificial lift machinery and well and surface production equipment and systems
- **Directive interest in supervising** well modification and stimulation programs to maximize oil and gas recovery; and in monitoring reservoir performance, and in overseeing and monitoring completion and evaluation of wells, well testing and well surveys

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate
L3	Outside
Hazards	
H8	Dangerous locations

Employment Requirements

- Education/Training
7, 8, +, R
- A bachelor's degree in petroleum engineering or in a related engineering discipline is required.
 - A master's degree or doctorate in a related engineering discipline may be required.
 - Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
 - Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering passing a professional practice examination.

Workplaces/Employers

Consulting companies
Educational institutions
Governments
Petroleum producing companies
Research institutions
Well logging or testing companies

Occupational Options

There is mobility among petroleum engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Chemical Engineers (2134)
Engineering Managers (0211)
Geological Engineers (2144)
Geologists, Geochemists and Geophysicists (2113)
Supervisors, Oil and Gas Drilling and Service (8222)

Remarks

Petroleum engineers may specialize in drilling, production, reservoir analysis or subsea operations.

Aerospace engineers research, design and develop aerospace vehicles, aerospace systems and their components, and perform duties related to their testing, evaluation, installation, operation and maintenance.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

- aerodynamics engineer
- aeronautical engineer
- aerospace engineer
- aircraft design engineer
- stress engineer, aerospace
- structural engineer, aerospace
- systems engineer, aerospace
- test engineer, aerospace

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design and develop aerospace components, vehicles and systems such as aircraft, spacecraft, missiles, satellites, and space-based communication systems, and to develop the technical phases of logistical and operational support
- **Verbal ability** to prepare manuals for operators, and reports on accidents and incidents

- **Numerical ability** to prepare cost estimates
- **Spatial and form perception** to prepare drawings and specifications for materials and processes to be used in manufacturing, maintenance, repairs and modifications
- **Innovative interest** in synthesizing information to investigate, report and recommend corrective actions for structural, component and system failures, and to develop operational specifications and maintenance schedules
- **Objective interest** in **precision working** to develop and conduct computer simulations using advanced mathematical modelling
- **Directive interest** in **supervising** and co-ordinating the manufacturing, assembly, modification, repair and overhaul of aircraft and spacecraft; and in co-ordinating ground and flight tests

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in aerospace engineering or in a related engineering discipline, such as mechanical engineering or engineering physics, is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, three to four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Air transport carriers
Aircraft and spacecraft manufacturers
Educational institutions
Governments
Research institutions

Occupational Options

There is considerable mobility among aerospace engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Aerospace engineers work closely with other scientists and engineers and mobility is possible among some fields of specialization.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Aircraft maintenance engineers (AMEs)
(in 7315 *Aircraft Mechanics and Aircraft Inspectors*)

Aircraft maintenance engineers (AMEs)
– avionics (in 2244 *Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors*)

Avionics engineers (in 2133 *Electrical and Electronic Engineers*)

Engineering Managers (0211)

Mechanical Engineers (2132)

Metallurgical and Materials Engineers
(2142)

2147.1 Computer and Telecommunications Hardware Engineers

Computer and telecommunications hardware engineers research, plan, design, develop, modify, evaluate and integrate computer and telecommunications hardware and related equipment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	3	3	3	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

application specific integrated circuit (ASIC) design engineer
computer engineer
computer hardware engineer
engineer, computer hardware
engineer, telecommunications hardware
hardware circuit board designer
hardware design engineer
hardware development engineer
hardware engineer
network test engineer
systems designer – hardware
technical architect – hardware

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research, design, develop and integrate computer and telecommunications hardware such as microprocessors, integrated circuit boards and semiconductor lasers
- **Verbal ability** to establish and maintain relationships with suppliers and clients and to provide design support during the manufacturing and installation processes
- **Numerical ability** to understand and apply advanced mathematical principles to computer systems
- **Spatial and form perception** to develop and conduct design verification simulations
- **Innovative interest in synthesizing** information to design and develop system architecture and hardware specifications; and in analyzing user requirements
- **Objective interest in precision working** to develop and conduct equipment performance evaluation programs and prototype bench tests of components
- **Directive interest in supervising** and inspecting the manufacturing, installation and implementation of computer and telecommunications hardware; may lead and co-ordinate teams of engineers, technologists, technicians and drafters

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- Computer engineers require a bachelor's degree in computer engineering, electrical or electronics engineering, engineering physics or computer science.
- A master's or doctoral degree in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Computer and telecommunication hardware manufacturers

Engineering, manufacturing and telecommunications firms

Governmental, educational and research institutions

Information technology consulting firms

Information technology units throughout the private and public sectors

Occupational Options

There is considerable mobility among engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Computer and telecommunications hardware engineers work closely with computer programmers, systems analysts, electrical and electronics engineers and other scientists and engineers, and mobility is possible among these fields of specialization.

With experience, progression to engineering management, marketing or sales is possible.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Programmers and Interactive Media Developers (2174)

Electrical and Electronics Engineering Technologists and Technicians (2241)

Electrical and Electronics Engineers (2133)

Engineering Managers (0211)

Information Systems Analysts and Consultants (2171)

Software Engineers (2173)

Web Designers and Developers (2175)

Remarks

Computer and telecommunications hardware engineers may specialize in a number of areas including analog and digital signal processing, fibre optics, integrated circuits, lasers, microprocessors, microwaves and radio astronomy.

2147.2 Network System and Data Communication Engineers

Network system and data communication engineers research, plan, design, develop, modify, evaluate and integrate information and communication system networks including mainframe systems, local and wide area networks, fibre-optic networks, wireless communication networks, intranets, the Internet and other data communications systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	3	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

- fibre-optic network designer
- network systems engineer
- network test engineer
- wireless communications network engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research, plan, design, develop, modify, evaluate and integrate information and communication system networks including mainframe systems, local and wide area networks, fibre-optic networks, wireless communication networks, intranets, the Internet and other data communications systems
- **Verbal ability** to document the capacity and performance communication systems clearly and accurately
- **Numerical ability** to understand and apply advanced mathematical principles to communication system networks and to prepare material, cost and timing estimates
- **Spatial and form perception** to prepare design specifications
- **Innovative interest in synthesizing** information to research, design and develop information and communication system network architecture and to optimize the performance of information and communication system networks
- **Methodical interest in precision working** to evaluate and integrate network system and data communication hardware and software and to assess network capacity
- **Directive interest in supervising** to lead and co-ordinate teams of design professionals in the development and integration of information and communication system architecture, hardware and software

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 7, 8, +, R

- Computer engineers require a bachelor's degree in computer engineering, electrical or electronics engineering, engineering physics or computer science.
- A master's or doctoral degree in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Computer and telecommunication hardware manufacturers

Engineering, manufacturing and telecommunications firms

Governmental, educational and research institutions

Information technology consulting firms

Information technology units throughout the private and public sectors

Occupational Options

There is considerable mobility among engineering specializations at the less senior levels.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Network system and data communication engineers work closely with computer programmers, systems analysts, electrical and electronics engineers and other scientists and engineers, and mobility is possible among these fields of specialization.

With experience, progression to engineering management, marketing or sales is possible.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Programmers and Interactive Media Developers (2174)

Electrical and Electronics Engineering Technologists and Technicians (2241)

Electrical and Electronics Engineers (2133)

Engineering Managers (0211)

Information Systems Analysts and Consultants (2171)

Software Engineers (2173)

Web Designers and Developers (2175)

Remarks

Network system and data communication engineers may specialize in a number of areas including analog and digital signal processing, fibre optics, integrated circuits, lasers, microprocessors, microwaves and radio astronomy.

2148.1 Agricultural and Bio-resource Engineers

Agricultural and bio-resource engineers design and develop machinery, structures, equipment and systems related to agriculture and food processing.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	1	2	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

agricultural engineer
bio-resource engineer
food processing engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design and develop criteria for the manufacture and construction of machinery, equipment, structures, systems and facilities related to agriculture and food processing
- **Verbal ability** to confer with engineers and scientists working on multidisciplinary teams to solve problems
- **Numerical ability** to conduct analyses of data collected from research and developmental studies, and to design sensing, measuring and recording devices and instrumentation
- **Spatial and form perception** to prepare design specifications for systems and facilities
- **Innovative interest in synthesizing** information to develop criteria and specifications for the design, manufacture and construction of equipment, structures and facilities, and for processes and procedures
- **Objective interest in precision working** to design machinery, equipment and systems, and to use technical equipment to conduct experiments and perform data analysis
- **Directive interest in supervising** the installation of equipment and systems

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in an appropriate engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports, and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting engineering firms
Educational institutions
Governments
Industry
Research facilities

Occupational Options

There is limited mobility among the engineering specializations included in the 2148 group.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Agricultural consultants (in 2123
*Agricultural Representatives,
Consultants and Specialists*)

Biochemical and biotechnical engineers
(in 2134 *Chemical Engineers*)

Biologists and Related Scientists (2121)

2148.2 Biomedical Engineers

Biomedical engineers apply established engineering principles to design and develop new diagnostic and clinical instrumentation and procedures for medical practice and biomedical research.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	1	3	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

biomedical engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design and develop medical diagnostic and clinical instrumentation, equipment and procedures, and to study engineering aspects of life support systems using knowledge of electrical, mechanical, chemical and other engineering principles, and knowledge of anatomy and physiology
- **Verbal ability** to collaborate with clinical teams throughout patients' rehabilitation including prescription of treatment and evaluation of progress
- **Numerical ability** to conduct data analyses
- **Spatial and form perception** to prepare design specifications
- **Innovative interest** in synthesizing information to plan and conduct research concerning life systems, and to develop diagnostic instrumentation, equipment, procedures and devices to assist people with disabilities
- **Objective interest** in **precision working** to modify and install medical equipment
- **Directive interest** in **consulting** to advise hospital administrators on the planning, acquisition and use of medical equipment; in supervising the installation of equipment, and in overseeing the activities of biomedical technologists and technicians

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in an appropriate engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports, and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting engineering firms

Educational institutions

Governments

Industry

Medical institutions

Research facilities

Occupational Options

There is limited mobility among the engineering specializations included in the 2148 group.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Biochemical and biotechnical engineers
(in 2134 *Chemical Engineers*)

Biologists and Related Scientists (2121)

Medical physicists (in 2111 *Physicists and Astronomers*)

2148.3 Engineering Physicists and Engineering Scientists

Engineering physicists and engineering scientists conduct research to expand fundamental knowledge in applied sciences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	1	3	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

engineering physicist

engineering scientist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research to expand fundamental knowledge in applied sciences and engineering, and to support advanced engineering and scientific applications
- **Verbal ability** to collaborate with other engineers and scientists in the development of processes, programs and equipment
- **Numerical ability** to conduct data analyses and to use advanced mathematical modelling
- **Spatial and form perception** to prepare design specifications
- **Innovative interest** in **synthesizing** information to develop processes, programs and equipment
- **Objective interest** in **precision working** with technical equipment when conducting experiments
- **Directive interest** in **consulting** to advise senior officials on the implications of advanced engineering and scientific applications; and in supervising the work of technologists and technicians

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in an appropriate engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting engineering firms
Educational institutions
Governments
Industry
Research facilities

Occupational Options

There is limited mobility among the engineering specializations included in the 2148 group.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Chemists (2112)

Physicists (in 2111 Physicists and Astronomers)

2148.4 Marine and Naval Engineers

Marine and naval engineers design and supervise installations and repairs of power plants, propulsion systems, heating and ventilating systems and other mechanical and electrical equipment in marine and naval facilities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	1	2	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

marine engineer

naval architect

naval engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles of engineering related to the design and development of marine vessels, structures, systems and equipment
- **Verbal ability** to confer with other engineers and specialists to solve problems
- **Numerical ability** to perform complex mathematical computations and to prepare cost estimates for system installations and repairs
- **Spatial and form perception** to prepare design specifications
- **Innovative interest in synthesizing** information to design and develop marine vessels, floating structures, marine power plants, propulsion systems and related systems and equipment in marine and naval facilities
- **Objective interest in precision working** with instruments to test marine systems and mechanical and electrical equipment
- **Directive interest in supervising** to oversee the building, maintenance and repair of vessels and marine systems

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +, R

- A bachelor's degree in an appropriate engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting engineering firms

Educational institutions

Governments

Industry

Research facilities

Occupational Options

There is limited mobility among the engineering specializations included in the 2148 group.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Electrical and Electronics Engineers
(2133)

Marine engineer officers – water transport (in 2274 *Engineer Officers, Water Transport*)

Mechanical Engineers (2132)

Physicists (in 2111 *Physicists and Astronomers*)

2148.5 Textile Engineers

Textile engineers design and develop processes, equipment and procedures for the production of fibres, yarns and textiles.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	1	3	4	4	4	4

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +, R

Examples of Job Titles

textile engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research to expand fundamental knowledge in engineering related to the production of fibres, yarns and textiles
- **Verbal ability** to confer with other engineers and scientists to solve problems
- **Numerical ability** to conduct data analyses
- **Spatial and form perception** to prepare design specifications
- **Innovative interest in synthesizing** information to develop processes, equipment and procedures for fibre, yarn and textile production
- **Objective interest in precision working** with technical equipment and instrumentation to conduct experiments and analytical studies
- **Directive interest in supervising** the work of technologists and technicians

Physical Activities

Vision
2 Near vision
Colour Discrimination
0 Not relevant
Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7, 8, +, R

- A bachelor's degree in an appropriate engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports, and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience in engineering and passing a professional practice examination.

Workplaces/Employers

Consulting engineering firms
Educational institutions
Governments
Industry
Research facilities

Occupational Options

There is limited mobility among the engineering specializations included in the 2148 group.

Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, sales, marketing or management.

Supervisory and senior positions in this group require experience.

Similar Occupations Classified Elsewhere

Biochemical and biotechnical engineers
(in 2134 *Chemical Engineers*)

Chemists (2112)

2151 Architects

Architects conceptualize, plan and develop designs for the construction and renovation of commercial, institutional and residential buildings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	1	2	3	3	3	3

INTERESTS

ISD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, L3

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

architect

architectural standards specialist

chief architect

consulting architect

industrial and commercial buildings architect

residential architect

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply architectural principles and practices, and to compile and evaluate information to develop building designs
- **Verbal ability** to consult with clients to determine types, styles, and purposes for renovations and new building construction, and to prepare bidding documents
- **Numerical ability** to conduct feasibility studies and financial analyses of building projects
- **Spatial perception** to prepare or supervise the preparation of drawings, specifications and other construction documents for use by contractors and tradespersons
- **Form perception** to design buildings and plan layout of structures
- **Innovative interest in synthesizing** information to conceptualize and design buildings, and to develop plans describing design specifications, building materials, costs and construction schedules
- **Social interest in precision working** to prepare sketches and models according to clients' specifications; and in participating in contract negotiations
- **Directive interest in supervising** and monitoring activities on construction sites to ensure compliance with specifications; and in awarding construction contracts

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Employment Requirements

Education/Training
7+, 8+, R

- A bachelor's degree from an accredited school of architecture *or* completion of the syllabus of studies from the Royal Architectural Institute of Canada (RAIC) is required.
- A master's degree in architecture may be required.
- Completion of a three-year internship under the supervision of a registered architect is required.
- Completion of the architect registration examination is required.
- Registration with the provincial association of architects in the province of work is required.

Workplaces/Employers

Architectural firms
Governments
Private corporations
Self-employment

Occupational Options

Progression to senior positions, such as chief architect, is possible with experience.

Similar Occupations Classified Elsewhere

Architecture and Science Managers
(0212)

Database architects (in 2172 *Database Analysts and Data Administrators*)

Landscape Architects (2152)

Naval architects (in 2148 *Other Professional Engineers, n.e.c.*)

Software architects (in 2173 *Software Engineers*)

Structural engineers (in 2131 *Civil Engineers*)

Technical architects – hardware (in 2147 *Computer Engineers*)

Remarks

Architects may specialize in a particular type of construction such as residential, commercial, industrial or institutional.

2152

Landscape Architects

Landscape architects conceptualize landscape designs, develop contract documents and oversee the construction of landscape development for commercial projects, office complexes, parks, golf courses and residential development.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	2	1	1	3	3	3	3
INTERESTS								
ISD								
DATA PEOPLE THINGS (DPT)								
031								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
3	1	2	3	1	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1, L3								
EDUCATION/TRAINING								
7+, 8+, R								

Examples of Job Titles

architect, landscape
landscape architect
landscape planner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to survey and assess sites, to develop designs taking into consideration landscape features, buildings, climate, future usage and other aspects, and to evaluate tenders for landscape construction projects
- **Verbal ability** to confer with clients to determine design needs, and to prepare reports, land use studies and design guidelines
- **Numerical ability** to prepare cost estimates for landscape construction projects
- **Spatial and form perception** to conduct community and neighbourhood physical planning studies, and to prepare detailed drawings and site plans including features such as trees, shrubs, gardens, lighting, walkways, patios, decks, benches, fences, retaining walls and fountains
- **Innovative interest in synthesizing** information to conduct environmental design studies including environmental assessment, planning and the preservation and re-creation of historical sites
- **Social interest in precision working** to prepare detailed drawings for sites, site plans, sketches and models for clients' approval, and to participate in multidisciplinary urban design studies
- **Directive interest in supervising** and overseeing the preparation of detailed drawings, site plans, reports, sketches, models, photographs, maps, land use studies and design plans; may manage and supervise landscape construction work

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
7+, 8+, R

- A bachelor's degree in landscape architecture is required.
- A master's degree in landscape architecture may be required.
- In Ontario and British Columbia, landscape architects require a two-year internship and the successful completion of a provincial registration exam.
- In the remaining provinces and territories, landscape architects usually require two years of landscape design experience and an interview by their respective provincial associations to receive association certification.

Workplaces/Employers

Architectural firms
Engineering firms
Government environmental and development agencies
Landscape consulting firms
Self-employment

Similar Occupations Classified Elsewhere

Architects (2151)
Landscape and Horticultural Technicians and Specialists (2225)
Landscape architecture managers (in 0212 Architecture and Science Managers)
Landscape design contractors (in 8255 Landscaping and Grounds Maintenance Contractors and Managers)
Urban and Land Use Planners (2153)

2153 Urban and Land Use Planners

Urban and land use planners develop plans and recommend policies for managing the land use, physical facilities and associated services for urban and rural areas and remote regions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

ISD

DATA PEOPLE THINGS (DPT)

031

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, R

Examples of Job Titles

city planner
community and urban planner
environmental planner
land use planner
long-range planner
municipal planner
park planner
planner
planning analyst
recreation planner
regional planner
urban planner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to prepare and recommend land development concepts and plans for zoning, subdivisions, transportation, public utilities, community facilities, parks, agricultural and other land uses, and to formulate long-range objectives and policies regarding future land use and protection of the environment
- **Verbal ability** to confer with municipal, provincial and federal authorities, civic leaders, social scientists, lawyers, land developers, the public and special interest groups to formulate and develop land use and community plans
- **Innovative interest** in synthesizing information to review and evaluate proposals for land use and development plans and prepare recommendations, and to develop long-range objectives for future land use
- **Numerical ability** to compile and analyze data on demographic, economic, legal, political, cultural, sociological, physical and other factors affecting land use
- **Spatial perception** to prepare environmental protection plans for wildlife preserves, national and provincial parks, and watersheds
- **Social interest** in precision working to prepare land development concepts and proposals for presentation to civic, rural and regional authorities; and in holding public meetings to present plans, proposals and studies to the general public and special interest groups
- **Directive interest** in supervising and co-ordinating the work of urban planning technicians and technologists; and in processing applications for land development permits and administering land use plans and zoning by-laws

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7, 8, R

- A bachelor's degree in urban and regional planning, geography, architecture, engineering or a related discipline is required.
- A master's degree in one of these disciplines may be required.
- Membership in the Canadian Institute of Planners is usually required.
- Membership in a provincial planning institute may be required in some provinces.

Workplaces/Employers

Engineering and other consulting companies

Governments

Land developers

Private consultants

Occupational Options

Progression to management positions in planning is possible with experience.

Similar Occupations Classified Elsewhere

Architects (2151)

Civil Engineers (2131)

Land Surveyors (2154)

Landscape Architects (2152)

2154 Land Surveyors

Land surveyors plan, direct and conduct legal surveys to establish the location of real property boundaries, contours and other natural and human-made features, and prepare and maintain cross-sectional drawings, official plans, records and documents pertaining to these surveys.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	3	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

131

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	0	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

commissioned land surveyor
land surveyor
legal surveyor
professional land surveyor
property surveyor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, direct and supervise or conduct surveys to establish and mark legal boundaries of properties, parcels of land, provincial and Canada Lands, aboriginal land claims, well-sites, mining claims, utility rights-of-way, roadways and highways
- **Verbal ability** to advise, provide consultation and testify as an expert witness on matters related to legal surveys
- **Numerical ability** to calculate measurements and other information for making maps
- **Spatial perception** to survey and lay out subdivisions for rural and urban development and visualize and plot on maps and field sheets such data as elevations, distances, contour lines and other topographical features
- **Form perception** to obtain readings from surveying instruments, to examine maps and aerial photographs, to prepare drawings and charts, to make and revise maps and to determine precise locations using electronic distance measuring equipment and global positioning systems (GPS)
- **Innovative interest** in co-ordinating information to develop plans, methods and procedures for conducting legal surveys, and to analyze, manage and display data using geographic information systems (GIS) and computer-aided design and drafting (CAD)
- **Objective interest** in precision working with GIS, GPS, CAD and other systems and equipment to record measurements and other information and to prepare survey data, plans, charts, records and documents
- **Directive interest** in supervising the preparation and compilation of data, plans, charts, records and documents; and in certifying and assuming liability for surveys

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6+, 7+, R

- A bachelor's degree in geomatics engineering or survey engineering
or
a college diploma in survey science or geomatics technology with additional academic credits and successful completion of equivalent examinations set by a regional board of examiners for land surveyors is required.

- A one- to three-year articling period is required.

- Successful completion of professional land surveyor examinations is mandatory to obtain a federal or a provincial licence.

- A federal or provincial land surveyor's licence is required.

Workplaces/Employers

Engineering and construction firms

Federal government

Municipal governments

Natural resource firms

Private sector land surveying establishments

Provincial governments

Real estate development firms

Self-employment

Occupational Options

Federal statutes require a separate licence from the Association of Canada Land Surveyors to survey areas such as national parks, aboriginal lands, offshore areas and northern territories.

Similar Occupations Classified Elsewhere

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geomatics and survey engineers (in 2131 *Civil Engineers*)

Hydrographic surveyors (in 2113 *Geologists, Geochemists and Geophysicists*)

Land Survey Technologists and Technicians (2254)

Mapping and Related Technologists and Technicians (2255)

Urban and Land Use Planners (2153)

2161.1 Mathematicians

Mathematicians research mathematical theories, and develop and apply mathematical techniques to solve problems in such fields as science, engineering, business and the social sciences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	1	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

mathematician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the fundamental theories of algebra, geometry, probability, logic and other branches of mathematics and to conduct research
- **Verbal ability** to communicate research findings
- **Numerical ability** to perform complex computations and apply methods of numerical analysis
- **Spatial perception** to comprehend and visualize mathematical formulations and to present data in tables and graphs
- **Clerical perception** to perceive detail in numerical material and avoid errors in computations
- **Innovative interest** in synthesizing information to extend knowledge in traditional areas of mathematics through research, to develop and improve mathematical techniques and to solve problems in other areas such as scientific research, engineering and management
- **Methodical interest** in applying mathematical techniques to the solution of problems in scientific fields such as physical science, engineering, computer science and other fields including operations research, business and management; and in using computers and measuring instruments
- **Directive interest** in consulting to advise researchers concerning mathematical applications, methods and analyses

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
8

- A graduate degree in mathematics is required.

Workplaces/Employers

Banks and trust companies

Governments

Insurance companies

Pension benefit consulting firms

Professional associations

Scientific and engineering consulting firms

Universities

Similar Occupations Classified Elsewhere

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Financial Auditors and Accountants (1111)

Other Financial Officers (1114)

2161.2 Statisticians

Statisticians research statistical theories, and develop and apply statistical techniques to solve problems in such fields as science, engineering, business and the social sciences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	1	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

biostatistician
demographer
statistical analyst
statistician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the mathematical basis of statistics and to conduct research
- **Verbal ability** to communicate research findings
- **Numerical ability** to perform complex computations and apply methods of numerical analysis
- **Spatial perception** to comprehend and visualize in statistical formulations and to present data in tables and graphs
- **Clerical perception** to perceive detail in numerical material and avoid errors in mathematical computations
- **Innovative interest** in synthesizing information to extend knowledge on the mathematical basis of statistics, and to develop statistical methodologies
- **Methodical interest** in applying statistical theory and methods to provide information in scientific and other fields such as biological and agricultural sciences, business and economics, physical sciences and engineering, and the social sciences
- **Directive interest** in consulting to advise on the applications of statistical methods and analyses

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
8

- A graduate degree in statistics is required.

Workplaces/Employers

Banks and trust companies
Governments
Insurance companies
Pension benefit consulting firms
Professional associations
Science and engineering consulting firms
Universities

Similar Occupations Classified Elsewhere

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Financial Auditors and Accountants (1111)

Other Financial Officers (1114)

2161.3 Actuaries

Actuaries apply mathematics, statistics, probability and risk theory to assess potential financial impacts of future events.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	1	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

actuary
consulting actuary
insurance actuary

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply mathematical models to forecast and calculate the probable future costs of insurance and pension benefits
- **Verbal and numerical ability** to communicate the results of calculations of future risks associated with premiums, contributions and benefits for insurance policies, pension and superannuation plans
- **Spatial and clerical perception** to construct probability tables used to calculate premium rates and policy values
- **Innovative interest** in synthesizing information to design life, health, and property insurance policies through research
- **Methodical interest** in preparing records on mortality, sickness, accident, disability and retirement based on research and analysis of statistical, economic and other data
- **Directive interest** in consulting to provide legal evidence on the value of future earnings, and to assist investment fund managers in portfolio asset allocation decisions and risk management; may supervise the activities of workers engaged in preparing and processing contracts and insurance, annuity and pension policies

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, R

- Actuaries usually require post-secondary education in actuarial science, mathematics, statistics, economics, commerce or business administration.
- Actuaries are conferred fellowships through the Canadian Institute of Actuaries upon successful completion of professional examinations and three years of work experience in the actuarial field as an actuarial assistant or in a related position.

Workplaces/Employers

Banks and trust companies
Governments
Insurance companies
Pension benefit consulting firms
Professional associations
Science and engineering consulting firms
Self-employment
Universities

Occupational Options

With experience, actuaries may progress to managerial positions in consulting, insurance and finance.

Similar Occupations Classified Elsewhere

Economists (in 4162 *Economists and Economic Policy Researchers and Analysts*)

Financial and Investment Analysts (1112)

Financial Auditors and Accountants (1111)

Other Financial Officers (1114)

2171.1 Information Systems Business Analysts and Consultants

Information systems business analysts and consultants research, develop, implement and test information systems development plans, policies and procedures, and provide advice on information systems issues.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	2	2	2	3	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

221

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

- computer consultant
- computer systems analyst
- informatics consultant
- information systems business analyst
- IT (information technology) consultant
- systems consultant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research, develop, implement and test information systems development plans, policies and procedures
- **Verbal ability** to confer with clients in order to identify and document requirements, to express complex ideas to clients in a clear and concise manner, and to create system documentation
- **Numerical ability** to conduct business and technical studies, monitor expenditures, prepare and control budgets, and negotiate supply and other contracts
- **Spatial and form perception** to write requirement specifications for computer software and hardware, and to understand and analyze flowcharts and business logic models
- **Innovative interest in analyzing** information to design, develop and administer information systems business solutions
- **Methodical interest in precision working** to ensure products and systems are delivered according to accepted policies and standards, in administering task schedules, and in documenting technical specifications
- **Directive interest in consulting** to advise on information systems strategy, policy, management and service delivery, to set and clarify objectives and agendas; and to plan and manage projects

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting

Limb Co-ordination	
1	Upper limb co-ordination

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A bachelor's degree in computer science, computer systems engineering, software engineering, business administration or a related discipline
or
completion of a college program in computer science is usually required.
- Experience as a computer programmer is usually required.

Workplaces/Employers

Information technology consulting firms
Information technology units throughout the private and public sectors
Self-employment

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Database Analysts and Data Administrators (2172)

Financial Auditors and Accountants (1111)

Professional Occupations in Business Services to Management (1122)

Software Engineers (2173)

Web Designers and Developers (2175)

2171.2 Systems Security Analysts

Systems security analysts conduct research, and develop, implement and test plans, policies and procedures to protect information systems from potential security threats. They also advise and inform other employees about security issues.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	2	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

221

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

informatics security analyst
systems security analyst

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research, develop, implement and test plans, policies and procedures to protect information systems from potential security threats
- **Verbal ability** to respond to security inquiries and requests, and to inform clients or staff members about security issues
- **Numerical ability** to prepare business and technical reports such as cost-benefit and risk analyses
- **Spatial and form perception** to understand computer hardware, software, flowcharts and business logic models
- **Clerical perception** to review files and activity logs for security incidents
- **Methodical interest in precision working** to implement and administer system security infrastructure and security tools, and in maintaining security practices and procedures
- **Innovative interest in analyzing** physical and technical security risks to data, software and hardware in order to develop policies and contingency plans that minimize the effects of security breaches
- **Directive interest in consulting** to advise on systems security issues and on enhancing security tools, techniques and business practices; in enforcing security practices and procedures, and in addressing security problems such as computer viruses and unauthorized information access, modification or deletion

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A bachelor's degree in computer science, computer systems engineering, software engineering, business administration or a related discipline
or
completion of a college program in computer science is usually required.
- Experience as a computer programmer is usually required.

Workplaces/Employers

Information technology consulting firms
Information technology units throughout the private and public sectors
Self-employment

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Database Analysts and Data Administrators (2172)

Financial Auditors and Accountants (1111)

Professional Occupations in Business Services to Management (1122)

Software Engineers (2173)

Web Designers and Developers (2175)

2171.3 Information Systems Quality Assurance Analysts

Information systems quality assurance analysts provide expertise in applying quality assurance planning techniques throughout the systems and software development life cycle.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

221

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

information systems quality assurance analyst

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply quality assurance practices and techniques to all stages of the information systems and software life cycle
- **Verbal ability** to prepare software development plans, policies and procedures and to communicate technical information
- **Numerical ability and spatial and form perception** to understand and use computer programming languages, flowchart and logic models
- **Innovative interest in analyzing** information to assess overall efficiency, effectiveness and quality against established standards, and to design quality control plans and specifications
- **Methodical interest in precision working** to administer organizational policies and procedures to ensure integrity and to maximize the efficiency and effectiveness of product development; and in monitoring compliance with standards and policies
- **Directive interest in consulting** to advise on quality control issues and practices

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A bachelor's degree in computer science, computer systems engineering, software engineering, business administration or a related discipline
or
completion of a college program in computer science is usually required.
- Experience as a computer programmer is usually required.

Workplaces/Employers

Information technology consulting firms
Information technology units throughout the private and public sectors
Self-employment

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Database Analysts and Data Administrators (2172)

Financial Auditors and Accountants (1111)

Professional Occupations in Business Services to Management (1122)

Software Engineers (2173)

Web Designers and Developers (2175)

2171.4 Systems Auditors

Systems auditors conduct independent third-party reviews to assess quality assurance practices, software products and information systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

MDI

DATA PEOPLE THINGS (DPT)

221

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

systems auditor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct independent third-party reviews and assess quality assurance practices, software products and information systems
- **Verbal ability** to produce clear and concise audit reports, and to document the audit process and results
- **Directive interest in consulting** to recommend ways to improve quality assurance practices and procedures
- **Numerical ability** to prepare business and technical reports
- **Innovative interest in precision working** to design information systems audits
- **Methodical interest in analyzing** information to review organizational information technology (IT) policies, standards and procedures and to complete audit assessments according to standard IT audit practices

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+

- A bachelor's degree in computer science, computer systems engineering, software engineering, business administration or a related discipline
or
completion of a college program in computer science is usually required.
- Experience as a computer programmer is usually required.

Workplaces/Employers

Information technology consulting firms
Information technology units throughout the private and public sectors
Self-employment

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Database Analysts and Data Administrators (2172)

Financial Auditors and Accountants (1111)

Professional Occupations in Business Services to Management (1122)

Software Engineers (2173)

Web Designers and Developers (2175)

2172.1 Database Analysts

Database analysts design, develop and administer data management solutions using database management software.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	1	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

- data warehouse analyst
- database administrator (DBA)
- database analyst
- database architect
- technical architect – database

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design, develop and administer data management solutions using database management software
- **Verbal ability** to collect and document user requirements, and to confer with other informatics professionals and clients
- **Numerical ability** to establish and maintain data models; and to construct, maintain, test and correct database applications
- **Spatial and form perception** to understand flowcharts, logic models and database design
- **Clerical perception** to detect, locate and avoid errors in code
- **Innovative interest** in synthesizing information to design, construct, modify, implement and test data models and database management systems, and to design and develop database architecture for information systems projects
- **Methodical interest** in **precision working** to operate database management systems to analyze data; in ensuring compliance with relevant regulations and standards; and in implementing and maintaining database access and security control
- **Directive interest** in **consulting** to conduct research and provide advice on the selection, application and implementation of database management tools

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	1	Upper limb co-ordination
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
----------	----	--------------------------

Employment Requirements

Education/Training
6+, 7+

- A bachelor's degree, usually in computer science, mathematics, commerce or business administration *or* completion of a college program in computer science is usually required.
- Experience as a computer programmer is usually required.

Workplaces/Employers

Information technology consulting firms
Information technology units throughout the private and public sectors
Self-employment

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Information Systems Analysts and Consultants (2171)

Software Engineers (2173)

Web Designers and Developers (2175)

2172.2 Data Administrators

Data administrators develop and implement data administration policy, standards and models.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	3	2	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

121

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

data administrator

data custodian

data dictionary administrator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop and implement data administration policy, standards and models
- **Verbal ability** to research and document data requirements, data collection and administration policy, and data access rules
- **Numerical ability** to develop data models using database management software; and to prepare financial plans, reports and analyses
- **Spatial and form perception** to understand flowcharts, logic models and data warehousing schematics
- **Innovative interest in co-ordinating** information to develop policies and procedures for network access and usage and for the backup and recovery of data
- **Methodical interest in precision working** to implement and monitor data administration solutions, standards and procedures
- **Directive interest in consulting** to conduct research and to advise on the collection, availability and suitability of data; may lead and co-ordinate teams of data administrators in the development and implementation of data policies, standards and models

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	1	Upper limb co-ordination
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
----------	----	--------------------------

Employment Requirements

Education/Training
6+, 7+

- A bachelor's degree, usually in computer science, mathematics, commerce or business administration *or* completion of a college program in computer science is usually required.
- Computer programming experience is usually required.

Workplaces/Employers

Information technology consulting firms
Information technology units throughout the private and public sectors

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Information Systems Analysts and Consultants (2171)

Software Engineers (2173)

Web Designers and Developers (2175)

2173 Software Engineers

Software engineers research, design, evaluate, integrate and maintain software applications, technical environments, operating systems, embedded software, information warehouses and telecommunications software.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	3	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, 8+, R

Examples of Job Titles

application architect
computer software engineer
embedded software engineer
software architect
software design engineer
software design verification engineer
software designer
software engineer
software testing engineer
systems integration engineer – software
technical architect – software
telecommunications software engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research, design, evaluate, integrate and maintain software applications, technical environments, operating systems, embedded software, information warehouses and telecommunications software
- **Verbal ability** to collect and document user requirements and to understand computer languages and IT terminology
- **Numerical ability** to evaluate the performance and reliability of designs, develop logical specifications, and to understand the mathematical principles governing the development of computer software
- **Spatial and form perception** to develop data, process and network models in order to optimize architecture; and to develop physical specifications
- **Clerical perception** to detect, locate and avoid errors in code
- **Innovative interest in synthesizing** information to design, develop and test computer-based systems
- **Methodical interest in precision working** to assess, troubleshoot, document, upgrade and develop maintenance procedures for operating systems, communications environments and applications software
- **Directive interest in consulting** to plan, design and co-ordinate the development, installation, integration and operation of computer-based systems; may lead and co-ordinate teams of information systems professionals in the development of software and integrated information systems

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, 8+, R

- A bachelor's degree, usually in computer science, computer systems engineering, software engineering or mathematics
or
completion of a college program in computer science is usually required.
- A master's doctoral or degree in a related discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, three or four years of supervised work experience in engineering and passing a professional practice examination.
- Experience as a computer programmer is usually required.

Workplaces/Employers

Information technology consulting firms

Information technology research and development firms

Information technology units throughout the private and public sectors

Self-employment

Similar Occupations Classified Elsewhere

Computer and Information Systems Managers (0213)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Database Analysts and Data Administrators (2172)

Electrical and Electronics Engineers (2133)

Information Systems Analysts and Consultants (2171)

Systems Testing Technicians (2283)

Web Designers and Developers (2175)

2174.1 Computer Programmers

Computer programmers write, modify, integrate and test computer code for microcomputer and mainframe software applications, data processing applications, operating systems-level software and communications software.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	1	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, +

Examples of Job Titles

application programmer
business application programmer
computer programmer
e-commerce (electronic commerce) software developer
operating systems programmer
programmer analyst
scientific programmer
software developer
software programmer
systems programmer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and use computer programming languages to write, modify, integrate and test software code
- **Verbal ability** to prepare reports, manuals and other documentation on the status, operation and maintenance of software, and to assist in the collection and documentation of user requirements
- **Numerical ability** to understand and use computer programming languages to develop software code for applications
- **Spatial and form perception** to understand the functioning of computer hardware and software, and to understand flowcharts and logic models
- **Clerical perception** to detect, locate and avoid errors in code
- **Innovative interest in analyzing** information to assist in the development of logical and physical specifications and to research and evaluate a variety of software products
- **Methodical interest in precision working** to test, correct and refine software applications, to ensure systems meet original specifications, and to maintain existing computer programs by making modifications as required; and in planning and scheduling work within set targets
- **Directive interest in speaking** to collect user requirements and to identify and communicate technical problems, processes and solutions

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
6, 7, +

- A bachelor's degree in computer science or in another discipline with a significant programming component *or* completion of a college program in computer science is usually required.
- Specialization in programming for engineering and scientific applications requires specific post-secondary study or experience.

Workplaces/Employers

Computer software development firms
Information technology consulting firms
Information technology units throughout the private and public sectors
Self-employment

Occupational Options

Progression to information systems analyst, software engineer or web designer is possible with experience.

Similar Occupations Classified Elsewhere

Computer and Network Operators and Web Technicians (2281)

Database Analysts and Data Administrators (2172)

E-commerce managers (in 0611 *Sales, Marketing and Advertising Managers*)

Graphic Designers and Illustrating Artists (5241)

Information Systems Analysts and Consultants (2171)

Software Engineers (2173)

Systems Testing Technicians (2283)

Web Designers and Developers (2175)

2174.2 Interactive Media Developers

Interactive media developers write, modify, integrate and test computer code for Internet applications, computer-based training software, computer games, film, video and other interactive media.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	2	3	1	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7

Examples of Job Titles

computer game developer
interactive media developer
multimedia developer
software developer
software programmer
web programmer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning** and **numerical ability** to program animation software to predefined specifications for interactive CDs, DVDs, video game cartridges and Internet-based applications; and to write, modify, integrate and test software code for e-commerce and other Internet applications
- **Verbal ability** to assist in the collection and documentation of user requirements
- **Spatial and form perception** to program special effects software for film and video applications and to create dynamic user environments using computer code
- **Clerical perception** to detect, locate and avoid errors in code
- **Innovative interest** in analyzing information to develop logical and physical specifications and to research and evaluate a variety of interactive media software products
- **Methodical interest** in **precision working** to test, correct and refine software code and to ensure applications meet original specifications; and in planning and scheduling work within set targets
- **Directive interest** in **speaking** to discuss user requirements and to identify and communicate technical problems, processes and solutions

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 1 Relevant
- Hearing
- 2 Verbal interaction
- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 6, 7
- A bachelor's degree in computer science or in another discipline with a significant programming component *or* completion of a college program in computer science is usually required.

Workplaces/Employers

- Computer software development firms
- Information technology consulting firms
- Information technology units throughout the private and public sectors
- Self-employment

Occupational Options

Progression to information systems analyst, software engineer or web designer is possible with experience.

Similar Occupations Classified Elsewhere

- Computer and Network Operators and Web Technicians* (2281)
- Database Analysts and Data Administrators* (2172)
- E-commerce managers (in 0611 *Sales, Marketing and Advertising Managers*)
- Graphic Designers and Illustrating Artists* (5241)
- Information Systems Analysts and Consultants* (2171)
- Software Engineers* (2173)
- Systems Testing Technicians* (2283)
- Web Designers and Developers* (2175)

2175 Web Designers and Developers

Web designers and developers research, design, develop and produce Internet, extranet and intranet sites.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	1	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

221

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

e-commerce web site developer
internet site designer
internet site developer
intranet site designer
web designer
web developer
web manager
web site developer
webmaster

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research, design, develop and produce Internet, extranet and intranet sites
- **Verbal ability** to source, select and organize information for inclusion in Web sites
- **Numerical ability** to understand and use Web-related computer programming languages
- **Spatial and form perception** to prepare, arrange and optimize content for Web sites using a variety of graphic, database, animation, Web-authoring and other software
- **Clerical perception** to detect, locate and avoid errors in code
- **Innovative interest in analyzing** information to prepare mock-ups and storyboards, to develop Web site architecture, and to design the appearance, layout and flow of Web sites
- **Methodical interest in precision working** to test and modify Web pages and applications
- **Directive interest in consulting** with clients to develop and document Web site requirements; and in determining hardware and software requirements; may lead and co-ordinate multidisciplinary teams to develop Web site graphics, content, capacity and interactivity

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 1 Relevant
- Hearing
- 2 Verbal interaction

- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination

- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 6+, 7+
- A bachelor's degree, usually in computer science, communications or business
or
completion of a college program in computer science, graphic arts, Web design or business is required.
 - Experience as a computer programmer or graphic designer is usually required.

Workplaces/Employers

- Computer software development firms
- Information technology consulting firms
- Information technology units throughout the private and public sectors
- Self-employment

Similar Occupations Classified Elsewhere

- Computer and Network Operators and Web Technicians* (2281)
- Computer Programmers and Interactive Media Developers* (2174)
- E-commerce managers (in 0611 *Sales, Marketing and Advertising Managers*)
- Graphic Designers and Illustrating Artists* (5241)
- Information Systems Analysts and Consultants* (2171)
- Network systems engineers (in 2147 *Computer Engineers*)
- Systems Testing Technicians* (2283)

2211.1 Chemical Technologists

Chemical technologists may work independently or provide technical support and services in chemical engineering, chemical and biochemical research and analysis, industrial chemistry, chemical quality control and environmental protection.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	2	3	3	3	3

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H1, D3*

EDUCATION/TRAINING

6, +, R

Examples of Job Titles

biochemistry technologist
chemical analyst
chemical engineering technologist
chemical laboratory analyst
chemical technologist
food technologist
industrial hygiene technologist
master dyer – textiles

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to set up and conduct chemical experiments, tests and analyses using techniques such as chromatography, spectroscopy, microscopy, and physical and chemical separation techniques
- **Verbal and numerical ability** to compile and interpret results of experiments and analyses
- **Form perception** to assist in the design and fabrication of experimental apparatus
- **Objective interest in precision working** to operate and maintain laboratory equipment and apparatus, to operate chemical and petrochemical pilot plants, and to conduct air and water quality testing and assessments
- **Innovative interest in analyzing** data to develop and conduct programs of sampling and analysis to maintain quality standards of raw materials, chemical intermediates and products
- **Methodical interest in supervising** to oversee environmental monitoring and protection activities and compliance with standards; in assisting in the development of chemical engineering processes, standards, procedures and health and safety measures; in assisting in studies of chemical engineering procurement, construction, inspection and maintenance; and in preparing solutions of gas and liquid, reagents and sample formulations

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H1 Dangerous chemical substances

Discomforts
D3* Odours

Employment Requirements

Education/Training
6, +, R

- Chemical technologists usually require completion of a two- or three-year college program in chemical, biochemical or chemical engineering technology or a closely related discipline.
- National certification for chemical technologists and technicians is available through the Canadian Society for Chemical Technology.
- Certification in chemical engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required by employers.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Chemical, petrochemical and pharmaceutical companies
Consulting engineering companies
Manufacturing industries
Processing industries
Quality control laboratories
Research and development laboratories
Utilities, health, education and government establishments

Occupational Options

Considerable mobility is possible among jobs within this occupational group.

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Biochemistry technologists working as medical laboratory technologists (in 3211 *Medical Laboratory Technologists and Pathologists' Assistants*)

Process technicians who operate the controls of chemical or petrochemical processing plants (in 9232 *Petroleum, Gas and Chemical Process Operators*)

Remarks

Some chemical technologists working in support of fundamental research in chemistry or biochemistry are university graduates.

*Environmental Conditions

- For some occupations in this group, Discomforts D3 (Odours) may also apply.

2211.2 Chemical Technicians

Chemical technicians may work independently or provide technical support and services in chemical engineering, chemical and biochemical research and analysis, industrial chemistry, chemical quality control and environmental protection.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	2	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H1, D3*

EDUCATION/TRAINING

6, +, R

Examples of Job Titles

analytical technician, chemical
chemical analyst
chemical engineering technician
chemical laboratory analyst
chemical research technician
chemical technician
formulation technician
geochemical technician
mass spectrometer technician
master dyer – textiles
paint technician
pilot plant technician
quality control technician – chemical
processing
quality control technician – food
processing

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist in setting up and conducting chemical experiments, tests and analyses
- **Form perception** to assist in the design and fabrication of apparatus used for experiments
- **Methodical interest in compiling** records for analytical studies; and in preparing solutions of gas and liquid, reagents and sample formulations
- **Objective interest in precision working** to operate and maintain laboratory equipment and apparatus, and to assist with environmental air and water quality monitoring and protection
- **Innovative interest in assisting** to develop and conduct programs of sampling and analysis to maintain quality standards; and in carrying out a limited range of other technical functions in support of chemical research, tests and analyses

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H1 Dangerous chemical substances

Discomforts
D3* Odours

Employment Requirements

Education/Training
6, +, R

- Chemical technicians usually require completion of a one- or two-year college program in chemical, biochemical or chemical engineering technology.
- National certification for chemical technologists and technicians is available through the Canadian Society for Chemical Technology.
- Certification in chemical engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required by employers.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Chemical, petrochemical and pharmaceutical companies
Consulting engineering companies
Manufacturing industries
Processing industries
Quality control laboratories
Research and development laboratories
Utilities, health, education and government establishments

Occupational Options

Considerable mobility is possible among jobs within this occupational group.

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Biochemistry technologists working as medical laboratory technologists (in 3211 *Medical Laboratory Technologists and Pathologists' Assistants*)

Process technicians who operate the controls of chemical or petrochemical processing plants (in 9232 *Petroleum, Gas and Chemical Process Operators*)

Remarks

Some chemical technicians working in support of fundamental research in chemistry or biochemistry are university graduates.

*Environmental Conditions

- For some occupations in this group, Discomforts D3 (Odours) may also apply.

2212.1 Geological and Mineral Technologists

Geological and mineral technologists may work independently or provide technical support and services in the fields of oil and gas exploration and production, geophysics, petroleum engineering, geology, mining and mining engineering, mineralogy, extractive and physical metallurgy, metallurgical engineering and environmental protection.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	3	3	3
INTERESTS								
OId								
DATA PEOPLE THINGS (DPT)								
231								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
3	1	2	3	1	2			
ENVIRONMENTAL CONDITIONS (EC)								
L1, L3, H1, H8*, D3								
EDUCATION/TRAINING								
6, +, R								

Examples of Job Titles

assayer
geophysical technologist
groundwater technologist
marine geoscience technologist
metallurgical technologist
mining engineering technologist
mining technologist
petroleum engineering technologist
welding technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct geological, geophysical, hydrographic and oceanographic and prospecting surveys, and exploratory drilling, well logging and underground mine survey programs; and to conduct or assist in environmental audits, in the design of measures to minimize undesirable environmental effects of new or expanded mining and oil and gas operations, and in the development of waste management and other related environmental protection procedures; may conduct studies and programs related to mine development, mining methods and mine ventilation, lighting, drainage and ground control
- **Verbal and numerical ability** to prepare reports; and to prepare, transcribe and analyze seismic, gravimetric, well log and other geophysical and survey data
- **Spatial and form perception** to prepare notes, sketches, geological maps and cross sections; may develop specifications for heat treatment of metals and welding; may design welding fixtures and troubleshoot welding processes and quality problems
- **Objective interest in precision working** to operate and maintain geophysical survey and well logging instruments and equipment, and to perform physical and chemical tests
- **Innovative interest in analyzing** geophysical and survey data to assist engineers and geologists in the evaluation and analysis of petroleum and mineral reservoirs; may assist engineers and metallurgists in specifying material selection, metal treatments and corrosion protection systems; may assist hydrogeologists in evaluating ground water and well circulation
- **Directive interest in supervising** prospecting field trips, exploratory drilling, geological survey programs and studies, and the preparation and of rock, mineral and metal samples; may supervise oil and gas well drilling, well completions and work-overs and welding projects

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1 Dangerous chemical substances
H8* Dangerous locations

Discomforts
D3 Odours

Employment Requirements

Education/Training
6, +, R

- Geological and mineral technologists usually require completion of a two- to three-year college program in geological technology, petroleum technology, petroleum engineering technology, hydrogeology or groundwater technology, mining technology, mining engineering technology, mineralogy, metallurgical technology or welding technology.
- Geophysics technologists usually require completion of a two- to three-year college program in electronics technology.
- Certification in geological and mineral technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required by employers.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Consulting geology and engineering firms
Educational institutions
Governments
Manufacturing, construction and utilities companies
Petroleum and mining companies

Occupational Options

There is limited mobility between occupations in this group.

Mobility may be possible between geophysical technology and electronic technology.

Mobility may be possible between some occupations in this group and related fields of civil engineering technology.

Similar Occupations Classified Elsewhere

Civil Engineering Technologists and Technicians (2231)

Electrical and Electronics Engineering Technologists and Technicians (2241)

Mapping and Related Technologists and Technicians (2255)

Supervisors, Mining and Quarrying (8221)

Supervisors, Oil and Gas Drilling and Service (8222)

Technologists and technicians whose primary duties are to perform chemical laboratory tests (in 2211 *Chemical Technologists and Technicians*)

Remarks

*Environmental Conditions

- For some occupations in this group, **Hazards H8** (Dangerous locations) may also apply.

2212.2 Geological and Mineral Technicians

Geological and mineral technicians may work independently or provide technical support and services in the fields of oil and gas exploration and production, geophysics, petroleum engineering, geology, mining and mining engineering, mineralogy, extractive and physical metallurgy, metallurgical engineering and environmental protection.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	2	2	3	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H3, H8*

EDUCATION/TRAINING

6, +, R

Examples of Job Titles

assayer
geological technician
log technician
mineralogy technician
petroleum technician
petrology technician
reservoir engineering technician
rock mechanics technician
seismic technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to participate in geological, geophysical, geochemical, hydrographic and oceanographic surveys, prospecting field trips, exploratory drilling, well logging and underground mine survey programs and in environmental audits and related environmental protection activities
- **Verbal and numerical ability** to assist in preparing reports and in preparing, transcribing and analyzing seismic, gravimetric, well log and other geophysical and survey data
- **Spatial and form perception** to prepare notes, sketches, geological maps and cross sections
- **Objective interest in precision working** to operate and maintain geophysical survey and well logging instruments and equipment; to assist in preparing rock, mineral and metal samples; and to assist in conducting physical and chemical laboratory tests
- **Methodical interest in compiling** geophysical and survey data from hydrogeological field and laboratory studies in order to assist with preparation of reports
- **Innovative interest in assisting** to carry out a limited range of other technical functions in support of geology, geophysics and petroleum and mining engineering

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H3 Equipment, machinery, tools
H8* Dangerous locations

Employment Requirements

Education/Training
6, +, R

- Geological and mineral technicians usually require completion of a one- to two-year college program in geological technology or a related field.
- Certification in geological and mineral technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required by employers.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Consulting geology and engineering firms
Educational institutions
Governments
Manufacturing, construction and utilities companies
Petroleum and mining companies

Occupational Options

There is limited mobility between occupations in this group.

Mobility may be possible between geophysical technology and electronic technology.

Mobility may be possible between some occupations in this group and related fields of civil engineering technology.

Similar Occupations Classified Elsewhere

Civil Engineering Technologists and Technicians (2231)

Electrical and Electronics Engineering Technologists and Technicians (2241)

Mapping and Related Technologists and Technicians (2255)

Supervisors, Mining and Quarrying (8221)

Supervisors, Oil and Gas Drilling and Service (8222)

Technologists and technicians whose primary duties are to perform chemical laboratory tests (in 2211 *Chemical Technologists and Technicians*)

Remarks

*Environmental Conditions

- For some occupations in this group, **Hazards H8** (Dangerous locations) may also apply.

2213 Meteorological Technicians

Meteorological technicians observe weather and atmospheric conditions, record and interpret meteorological data, transmit and report on recorded information, and provide meteorological information and advice to the general public, the transportation industry and the media.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	2	3	3	3

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

5

Examples of Job Titles

aerological technician
avalanche controller
climate data processor
climate service specialist
climate service technician
ice service specialist
meteorological inspector
meteorological technician
officer-in-charge, weather station
operations technician, weather station
surface weather observer
weather service specialist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to observe, record, analyze and interpret weather data
- **Verbal and numerical ability** to analyze and report on meteorological data and provide weather information to pilots, farmers, shipping industries, news media and other users
- **Spatial, form and clerical perception** to observe, record, chart and transmit atmospheric and weather information including air pressure, temperature, humidity, wind, precipitation, cloud and ultraviolet conditions, and ice conditions in navigable waters
- **Objective interest in operating** equipment to record data and transmit atmospheric and weather information to weather forecast centres; and in maintaining equipment and instruments
- **Methodical interest in compiling** data to maintain climatological databases and participate in the production of maps and charts
- **Innovative interest in speaking** to provide meteorological information and advice to users; in inspecting and servicing weather service installations, and in observing snow conditions and participating in programs to control avalanches in mountainous terrain

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
5

- Completion of secondary school is required.
- Completion of a meteorological technician program provided by the Atmospheric Environment Service is required.
- Initial training may be up to one year, with subsequent specialized training available.

Workplaces/Employers

Armed forces
Atmospheric Environment Service of Environment Canada
Media companies
Private consulting companies
Provincial governments
Resource and utility companies

Similar Occupations Classified Elsewhere

Meteorologists (2114)

2221.1 Biological Technologists

Biological technologists may work independently or provide technical support and services to scientists, engineers and other professionals working in fields such as agriculture, resource management, environmental protection, plant and animal biology, microbiology, cell and molecular biology and health sciences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	2	3	3	2	3

INTERESTS

MI d

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H2

EDUCATION/TRAINING

6, R

Examples of Job Titles

agricultural technologist
biological laboratory technologist
microbiology quality control technologist
microbiology technologist
seed technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct biological, microbiological and biochemical tests in support of quality control in food production, sanitation, pharmaceutical production and other fields
- **Verbal ability** to understand and use scientific terms to review biological publications and papers, and to prepare reports
- **Numerical ability** to carry out quantitative analyses on data collected in field research and surveys
- **Form perception** to make visual comparisons when collecting samples of water, soil, plant and animal populations
- **Finger dexterity** to adjust microscopes and other scientific instruments
- **Methodical interest in precision working** with scientific equipment to perform experimental procedures in agriculture, plant breeding, animal husbandry, biology and biomedical research; and in conducting environmental monitoring and compliance activities for the protection of fisheries stocks, wildlife and other natural resources
- **Innovative interest in analyzing data**; and in conducting field research, surveys and operational programs
- **Directive interest in supervising** operational programs such as fish hatcheries, greenhouses and livestock production

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H2 Biological agents

Employment Requirements

Education/Training
6, R

- Completion of a two- to three-year college program in a field related to agriculture, biology, microbiology, wildlife or resource management is usually required for employment as a biological technologist.
- Certification with provincial associations is available, but voluntary.

Workplaces/Employers

Laboratory and field settings in:
Biotechnology companies
Chemical and pharmaceutical companies
Educational institutions
Environmental consulting companies
Governments
Health institutions
Manufacturers of food products
Research institutions
Resource and utilities companies

Occupational Options

There is limited mobility between occupations in this group.

Similar Occupations Classified Elsewhere

Agricultural and Fish Products Inspectors (2222)

Biochemical engineering technologists (in 2241 *Electrical and Electronics Engineering Technologists and Technicians*)

Biochemistry technologists and biochemistry laboratory technicians (in 2211 *Chemical Technologists and Technicians*)

Biologists and Related Scientists (2121)

Conservation and Fishery Officers (2224)

Forestry Technologists and Technicians (2223)

Medical Laboratory Technicians (3212)

Medical Laboratory Technologists and Pathologists' Assistants (3211)

Remarks

Some technologists working in support of government and academic research in biology are university graduates.

2221.2 Biological Technicians

Biological technicians may work independently or provide technical support and services to scientists, engineers and other professionals working in fields such as agriculture, resource management, environmental protection, plant and animal biology, microbiology, cell and molecular biology and health sciences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	2	3	3	2	3

INTERESTS

Moi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H2

EDUCATION/TRAINING

6, R

Examples of Job Titles

agricultural technician
agrology technician
aquaculture technician
bacteriological technician
botanical technician
fish hatchery technician
fisheries technician
food bacteriological technician
plant breeding technician
wildlife biology technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to perform a limited range of technical functions in support of agriculture, plant breeding, animal husbandry, biology, biomedical research and environmental protection
- **Verbal and numerical ability** to assist in analyses of data and preparation of reports
- **Form perception** to assist in collecting samples of water, soil, plant and animal populations
- **Finger dexterity** to adjust microscopes and other scientific instruments
- **Methodical interest in assisting** biologists to conduct laboratory analyses and biological, microbiological and biochemical tests
- **Objective interest in precision working** with laboratory equipment to conduct experiments and tests
- **Innovative interest in compiling** information to assist in conducting field research and surveys; and in collecting data and samples

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H2 Biological agents

Employment Requirements

Education/Training
6, R

- Completion of a one- to two-year college program in biology or a related field is required for employment as a biological technician.
- Certification with provincial associations is available, but voluntary.

Workplaces/Employers

Laboratory and field settings in:
Biotechnology companies
Chemical and pharmaceutical companies
Educational institutions
Environmental consulting companies
Governments
Health institutions
Manufacturers of food products
Research institutions
Resource and utilities companies

Occupational Options

There is limited mobility between occupations in this group.

Similar Occupations Classified Elsewhere

Agricultural and Fish Products Inspectors (2222)

Biochemical engineering technologists (in 2241 *Electrical and Electronics Engineering Technologists and Technicians*)

Biochemistry technologists and biochemistry laboratory technicians (in 2211 *Chemical Technologists and Technicians*)

Biologists and Related Scientists (2121)

Conservation and Fishery Officers (2224)

Forestry Technologists and Technicians (2223)

Medical Laboratory Technicians (3212)

Medical Laboratory Technologists and Pathologists' Assistants (3211)

Remarks

Some technicians working in support of government and academic research in biology are university graduates.

2222.1 Fish and Fish Products Inspectors

Fish and fish products inspectors inspect fish products for conformity to prescribed production, storage and transportation standards. Supervisors of fish products inspectors are also included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	4	2	4	4	4	3

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

267

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, L3, H2*, D3*

EDUCATION/TRAINING

4+, 6, 7

Examples of Job Titles

fish inspector
fish products inspector
supervisor, fish products inspection

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect fish, fish products and fish handling and processing methods to ensure that they conform to production, storage and transportation standards
- **Verbal and numerical ability** to analyze data and prepare inspection reports
- **Form perception** to recognize defects in fish, fish products and fish handling and processing methods
- **Manual dexterity** to use hand tools and equipment to inspect fish and fish products
- **Methodical interest in handling** equipment and scientific instruments to determine parasite infestation in fillets, to determine concentration of chlorine and brine solutions in processing and wash-down waters, and to detect and measure radioactivity in shipments; and in ensuring that regulations are followed
- **Innovative interest in analyzing** data collected from physical, chemical and bacteriological inspections
- **Directive interest in speaking** to advise industry officials on fish processing methods, plant sanitation, quality of products and registration requirements; to recommend issuance, suspension and withdrawal of registrations; to suggest improvements in the use of by-products such as fish meals, fish oils and fish solubles; and to recommend disposal of fish unfit for human consumption

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Hazards
H2* Biological agents

Discomforts
D3* Odours

Employment Requirements

Education/Training
4+, 6, 7

- Completion of secondary school is required.
- Government inspectors usually require a bachelor's degree or college diploma in agriculture, biology, chemistry, food processing technology or a related discipline.
- Inspectors (other than government) may require a bachelor's degree or college diploma in a related discipline.
- Several years of experience in fish processing are usually required.
- Completion of in-house training courses is required.

Workplaces/Employers

Government departments and agencies
Private sector food processing companies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians (2221)

Fish graders and meat graders who perform routine quality control duties or tally landed fish (in 9465 *Testers and Graders, Food and Beverage Processing*)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

Remarks

*Environmental Conditions

- For some occupations in this group, Hazards H2 (Biological agents) and Discomforts D3 (Odours) may also apply.

2222.2 Fruit and Vegetables Inspectors

Fruit and vegetable inspectors inspect agricultural products for conformity to prescribed production, storage and transportation standards. Supervisors of agricultural products inspectors are also included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	4	2	4	4	4	3

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

267

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, L3

EDUCATION/TRAINING

4+, 6, 7

Examples of Job Titles

agricultural products inspector
fruit and vegetables inspector
supervisor, agricultural products inspection
– fruit and vegetables

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect agricultural products to ensure that they conform to production, storage and transportation standards
- **Verbal and numerical ability** to analyze data and prepare reports on crop production and market conditions
- **Form perception** to recognize defects in fresh and frozen fruits and vegetables
- **Manual dexterity** to use equipment to inspect fresh and frozen fruits and vegetables
- **Methodical interest in handling** and inspecting fruits and vegetables during processing to establish size, quality and grade and to prepare specimens for examination
- **Innovative interest in analyzing** data collected at inspection centers; and in examining specimens to detect and identify diseases, insects and other damage
- **Directive interest in speaking** with growers, farmers and shippers regarding methods of culture, registration requirements, eradication of diseases and regulations pertaining to grading, packing, loading and transporting of products; and in reporting diseases to government authorities

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Employment Requirements

Education/Training
4+, 6, 7

- Completion of secondary school is required.
- Government inspectors usually require a bachelor's degree or college diploma in agriculture, biology, chemistry, food processing technology or a related discipline.
- Inspectors (other than government) may require a bachelor's degree or college diploma in a related discipline.
- Several years of experience in agricultural production are usually required.
- Completion of in house training courses is required.

Workplaces/Employers

Government departments and agencies
Private sector food processing companies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians (2221)

Fish graders and meat graders who perform routine quality control duties or tally landed fish (in 9465 *Testers and Graders, Food and Beverage Processing*)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

2222.3 Grain Inspectors

Grain inspectors ensure that grain products conform to production, storage and transportation standards. Supervisors of agricultural products inspectors are also included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	4	2	4	4	4	3

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

267

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, L3

EDUCATION/TRAINING

4+, 6, 7

Examples of Job Titles

agricultural products inspector
grain inspector
supervisor, agricultural products inspection – grain products

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect and grade grain and grain products at terminal elevators to ensure they conform to production, storage and transportation standards
- **Verbal and numerical ability** to analyze data and to prepare reports on crop production and market conditions
- **Form perception** to reject grain of substandard quality
- **Manual dexterity** to use hand tools, utensils and other equipment to separate, weigh and grade grain samples
- **Methodical interest in handling** grain and equipment to separate, weigh and grade grain; in monitoring the fumigation of infested grain; and in examining storage, handling and transportation equipment to ensure that sanitary procedures are followed
- **Innovative interest in analyzing** data collected at terminal elevators; and in examining grain samples to detect and identify diseases, insects and other damage
- **Directive interest in speaking** to growers, farmers and shippers regarding methods of culture, registration requirements, eradication of diseases and regulations pertaining to grading, packing, and loading and transportation of products; and in reporting diseases to government authorities

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Employment Requirements

Education/Training
4+, 6, 7

- Completion of secondary school is required.
- Government inspectors usually require a bachelor's degree or college diploma in agriculture, biology, chemistry, food processing technology or a related discipline.
- Inspectors (other than government) may require a bachelor's degree or college diploma in a related discipline.
- Several years of experience in agricultural production are usually required.
- Completion of in-house training courses is required.

Workplaces/Employers

Government departments and agencies

Private sector food processing companies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians (2221)

Fish graders and meat graders who perform routine quality control duties or tally landed fish (in 9465 *Testers and Graders, Food and Beverage Processing*)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

2222.4 Meat Inspectors

Meat inspectors inspect meat products for conformity to prescribed production, storage and transportation standards. Other agricultural products inspectors inspecting dairy and poultry products, and supervisors of agricultural products inspectors, are also included in this group.

Profile Summary										Examples of Job Titles	
APTITUDES										agricultural products inspector	
G	V	N	S	P	Q	K	F	M		dairy products inspector	
2	3	3	4	2	4	4	4	3		livestock inspector	
INTERESTS										meat inspector	
Mid										poultry inspector	
DATA PEOPLE THINGS (DPT)										supervisor, agricultural products inspection – meat products	
267											
PHYSICAL ACTIVITIES (PA)											
V	C	H	B	L	S						
2	1	1	3	0	1						
ENVIRONMENTAL CONDITIONS (EC)											
L1, L2, L3, H2*											
EDUCATION/TRAINING											
4+, 6, 7											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect meat products, or dairy and poultry products, to ensure that they conform to production, storage and transportation standards
- **Verbal and numerical ability** to analyze data and prepare inspection reports
- **Form perception** to recognize diseased or substandard animal products
- **Manual dexterity** to use test equipment when inspecting carcasses to ensure they are fit for human consumption
- **Methodical interest in handling** meat products to monitor the operations and sanitary conditions of slaughtering and meat processing plants, to grade poultry and egg samples, to test milk and to perform tests of other dairy products to determine their suitability for marketing
- **Innovative interest in analyzing** information to investigate cases of animal diseases communicable to humans in order to prevent and contain their spread
- **Directive interest in speaking** to livestock owners on economical aspects of disease eradication, and to inform producers and the general public on health implications of diseases transmissible from animals to humans

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Hazards
H2* Biological agents

Employment Requirements

Education/Training
4+, 6, 7

- Completion of secondary school is required.
- Government inspectors usually require a bachelor's degree or college diploma in agriculture, biology, chemistry, food processing technology or a related discipline.
- Inspectors (other than government) may require a bachelor's degree or college diploma in a related discipline.
- Several years of experience in agricultural production are usually required.
- Completion of in-house training courses is required.

Workplaces/Employers

Government departments and agencies
Private sector food processing companies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians (2221)

Fish graders and meat graders who perform routine quality control duties or tally landed fish (in 9465 *Testers and Graders, Food and Beverage Processing*)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

Remarks

*Environmental Conditions

- For some occupations in this group, Hazards H2 (Biological agents) may also apply.

2222.5 Plant Protection Inspectors

Plant protection inspectors inspect agricultural products for conformity to prescribed production, storage and transportation standards. Supervisors of agricultural products inspectors are also included in this group.

Profile Summary										Examples of Job Titles									
APTITUDES										crop certification inspector plant protection inspector supervisor, agricultural products inspection – plant products									
G	V	N	S	P	Q	K	F	M											
2	3	3	4	2	4	4	4	3											
INTERESTS																			
Mid																			
DATA PEOPLE THINGS (DPT)																			
267																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
2	1	1	3	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1, L2, L3																			
EDUCATION/TRAINING																			
4+, 6, 7																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect seeds, plants and plant products to ensure that they conform to production, storage and transportation standards
- **Verbal and numerical ability** to analyze data and to prepare inspection reports
- **Form perception** to examine specimens to detect and identify diseases, insects and other damage
- **Methodical interest in handling** seeds, plants and plant products for inspection; and in overseeing the fumigation of plants and plant product imports and exports
- **Innovative interest in analyzing** information on agricultural product inspections to determine genetic purity and the presence of destructive insects, diseases and other damage
- **Directive interest in speaking** to growers, farmers and shippers regarding methods of culture, registration requirements, eradication of disease and regulations pertaining to grading, packing and loading of agricultural products; in certifying seed crops, and in overseeing the quarantine, treatment and destruction of plants and plant products

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Employment Requirements

Education/Training

4+, 6, 7

- Completion of secondary school is required.
- Government inspectors usually require a bachelor's degree or college diploma in agriculture, biology, chemistry, food processing technology or a related discipline.
- Inspectors (other than government) may require a bachelor's degree or college diploma in a related discipline.
- Several years of experience in agricultural production are usually required.
- Completion of in-house training courses is required.

Workplaces/Employers

Government departments and agencies

Private sector food processing companies

Occupational Options

Progression to managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians (2221)

Fish graders and meat graders who perform routine quality control duties or tally landed fish (in 9465 *Testers and Graders, Food and Beverage Processing*)

Forestry Technologists and Technicians (2223)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

2223 Forestry Technologists and Technicians

Forestry technologists and technicians may work independently or perform technical and supervisory functions in support of forestry research, forest management, forest harvesting, forest resource conservation and environmental protection.

Profile Summary										Examples of Job Titles									
APTITUDES										conservation technician – forestry cruising technician – forestry enforcement officer – forestry extension ranger – forestry fire suppression officer – forestry forest fire technician forest survey technician forest technician forestry technologist resource technician – forestry scaler technician – logging scaling co-ordinator – logging silviculture technician									
G	V	N	S	P	Q	K	F	M											
2	3	3	3	3	3	3	3	3											
INTERESTS																			
DMI																			
DATA PEOPLE THINGS (DPT)																			
331																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
3	1	2	3	1	2														
ENVIRONMENTAL CONDITIONS (EC)																			
L1, L3, H8, D1																			
EDUCATION/TRAINING																			
5, 6, R																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct, supervise, and participate in forest inventory cruises, surveys and field measurements following accepted scientific and operational procedures
- **Verbal ability** to provide forestry education, advice and recommendations to woodlot owners, community organizations and the general public
- **Numerical ability and clerical perception** to take measurements and to develop and maintain computer databases
- **Spatial and form perception** to assist and perform technical functions in the preparation of forest management and harvest plans using photogrammetric and mapping techniques and computerized information systems
- **Motor co-ordination and finger and manual dexterity** to perform technical functions in forest harvesting operations and in silviculture operations involving site preparation, planting and tending of tree crops
- **Directive interest in supervising** the construction of access routes, forest roads and forest tree nursery operations; and in implementing and supervising technical functions in silviculture and forest harvesting operations and in co-ordinating activities such as timber scaling, forest fire suppression, disease and insect control and pre-commercial thinning of forest stands
- **Methodical interest in compiling** information to monitor activities of logging companies and contractors, to enforce regulations, such as those concerning environmental protection, resource use, fire safety and accident prevention
- **Innovative interest in precision working** to provide technical support to forestry research programs in areas such as tree improvement, seed orchard operations, insect and disease surveys and experimental forestry and forest engineering research

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H8 Dangerous locations

Discomforts
D1 Noise

Employment Requirements

Education/Training
5, 6, R

- Completion of a one- to three-year college program in forestry technology or in a renewable resource program or forest ranger program is usually required.
- Certification by, or registration with, a provincial association as a forestry technologist or technician may be required.
- Certification or licensing as a scaler is required for some positions.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Consulting firms
Federal government
Forest industry sector
Other industries and institutions
Provincial governments
Self-employment

Occupational Options

Mobility may be possible to occupations in natural resource and wildlife management and in parks management.

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians
(2221)

Conservation and Fishery Officers
(2224)

Foresters and forest engineers (in 2122
Forestry Professionals)

Supervisors, Logging and Forestry
(8211)

2224 Conservation and Fishery Officers

Conservation and fishery officers enforce the federal and provincial regulations established for the protection of fish, wildlife and other natural resources and collect and relay information on resource management.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	3	3	4	4	4

INTERESTS

DMS

DATA PEOPLE THINGS (DPT)

363

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	2	3	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, L4, H1*, H2*, H8*

EDUCATION/TRAINING

6, R

Examples of Job Titles

conservation officer
fish and wildlife officer
fishery officer
forest ranger – wildlife management
game officer
game warden
natural resources officer
park ranger

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to enforce and generate public awareness of fish and wildlife conservation and regulations, and to perform resource protection duties
- **Verbal ability** to prepare briefs and present evidence in court
- **Numerical ability and clerical perception** to issue licences, export documents and special permits, and to collect royalties assessed on fish, wildlife and timber resources
- **Directive interest in driving – operating** to conduct patrols by truck, aircraft, boat or on foot to ensure compliance with provincial and federal statutes relating to fish, wildlife and the environment; and in implementing and supervising approved techniques in preventing and overcoming damage caused by wildlife
- **Methodical interest in compiling** information when investigating complaints and arresting violators; and in gathering resource data by making inventories of fish, collecting water samples and assisting biologists in scientific research
- **Social interest in speaking** with the public to generate awareness of fish and wildlife conservation and regulations; and in supervising or providing firearms safety training courses and trapper education courses

Physical Activities

Vision
4 Total visual field

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside
L4 In a vehicle or cab

Hazards
H1* Dangerous chemical substances
H2* Biological agents
H8* Dangerous locations

Employment Requirements

Education/Training
6, R

- Completion of a one- to three-year college program in renewable resources management is required.
- On-the-job training and courses related to law enforcement and resource management are provided.
- A class-5 driver's licence, pesticide applicator's licence and explosives licence may be required.

Workplaces/Employers

Federal government departments
Provincial government departments

Occupational Options

Progression to senior and supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians (2221)

Fish inspectors (in 2222 Agricultural and Fish Products Inspectors)

Forestry Technologists and Technicians (2223)

Remarks

- *Environmental Conditions
- For some occupations in this group, Hazards H1 (Dangerous chemical substances), H2 (Biological agents) and H8 (Dangerous locations) may also apply.

2225.1 Arborists and Tree Service Technicians

Arborists and tree service technicians examine and treat injured and diseased trees and plants.

Profile Summary										Examples of Job Titles	
APTITUDES										arborist	
G	V	N	S	P	Q	K	F	M		tree service technician	
2	3	3	3	3	4	4	3	3			
INTERESTS											
OMd											
DATA PEOPLE THINGS (DPT)											
264											
PHYSICAL ACTIVITIES (PA)											
V	C	H	B	L	S						
3	1	1	4	2	3						
ENVIRONMENTAL CONDITIONS (EC)											
L1, L3, H1, H3, D3											
EDUCATION/TRAINING											
5, 6, 7, R											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine trees and plants to diagnose problems and diseases
- **Spatial and form perception** to detect injury and disease in trees and plants, to shape trees to desired contours when pruning, and to avoid overhead wires and other objects when raising ladders or hydraulic platforms
- **Objective interest** in **operating** equipment to apply treatments such as pruning, spraying, repairing damaged areas and injecting treatment solutions
- **Finger and manual dexterity** to use tools and equipment such as chainsaws and dusting equipment
- **Methodical interest** in **analyzing** information to determine appropriate treatment methods
- **Directive interest** in **speaking** with clients on issues related to the diagnosis and treatment of injured and diseased trees and plants

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1 Dangerous chemical substances
H3 Equipment, machinery, tools

Discomforts
D3 Odours

Employment Requirements

Education/Training
5, 6, 7, R

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- An apprenticeship program is available for arboriculturists.
- A provincial licence to apply chemical fertilizers, fungicides, herbicides and pesticides may be required.

Workplaces/Employers

Golf courses
Landscape designers and contractors
Lawn service and tree care establishments
Municipal, provincial and national parks
Nurseries and greenhouses
Self-employment

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians
(2221)

Botanists (in 2121 *Biologists and Related Scientists*)

Forestry Technologists and Technicians
(2223)

Landscape Architects (2152)

Landscaping and Grounds Maintenance Contractors and Managers (8255)

Nursery and Greenhouse Operators and Managers (8254)

Nursery and Greenhouse Workers
(8432)

Supervisors, Landscape and Horticulture
(8256)

2225.2 Golf Course Superintendents

Golf course superintendents supervise and co-ordinate activities of workers engaged in maintaining grounds, greens and turf of golf courses.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	3	3	4	3

INTERESTS

OMD

DATA PEOPLE THINGS (DPT)

134

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H1, D3

EDUCATION/TRAINING

6, 7, R

Examples of Job Titles

golf course superintendent
greenskeeper

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to direct crews who maintain the health and appearance of golf courses and their surrounding landscapes
- **Verbal and numerical ability** to discuss work projects with club owners, and to prepare annual budgets for owners' approval
- **Spatial and form perception** to select sites for flags, trees, shrubs and plants
- **Motor co-ordination and manual dexterity** to plant and move trees
- **Objective interest in operating** equipment to apply fertilizers, fungicides, herbicides and pesticides; and in overseeing the maintenance and repair of mechanical equipment
- **Methodical interest in co-ordinating** information from club authorities to plan and review work projects and priorities; and in arranging for soil tests and purchases of equipment and supplies
- **Directive interest in supervising** work crews who mix and prepare spray and dust mixtures, and spray and dust golf courses and surrounding landscapes

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1 Dangerous chemical substances

Discomforts
D3 Odours

Employment Requirements

Education/Training
6, 7, R

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- Experience as a landscape and grounds maintenance labourer may be required for golf course superintendents.
- A provincial licence to apply chemical fertilizers, fungicides, herbicides and pesticides may be required.

Workplaces/Employers

Golf courses
Self-employment

Similar Occupations Classified Elsewhere

Landscape Architects (2152)

Landscaping and Grounds Maintenance Contractors and Managers (8255)

Nursery and Greenhouse Operators and Managers (8254)

Nursery and Greenhouse Workers (8432)

Supervisors, Landscape and Horticulture (8256)

2225.3 Horticulturists

Horticulturists conduct experiments and studies of fruits and flowers to develop and improve plant varieties and production methods.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	3	4	4	3	3

INTERESTS

OMD

DATA PEOPLE THINGS (DPT)

131

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	4	2	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H1*, D3*

EDUCATION/TRAINING

5, 6, 7, R

Examples of Job Titles

horticultural technician

horticulture specialist

horticulturist

hydroponics technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and co-ordinate the growth and use of plants for landscaping, ornamental uses and other purposes
- **Verbal ability** to advise clients on issues related to horticulture; may provide technical advice regarding plant growth as it effects highway construction and maintenance
- **Form perception** to observe the characteristics of fruits and flowers in order to develop and improve plant varieties, production methods and breeding techniques; to determine the effects of environmental conditions on plant propagation and growth; and to improve the quality and yield of harvests
- **Finger and manual dexterity** to apply breeding techniques, such as bud and scion graft and cross-pollination to develop new strains, and to introduce new variations of colour, size, taste, texture and other characteristics to particular plants
- **Objective interest in precision working** with enriched seed, fertilizers, plant hormones and different planting, spraying, cultivation, rotation, drainage and irrigation methods to achieve optimum viability, strength and growth
- **Methodical interest in co-ordinating** data to conduct studies, analyze production problems and develop disinfecting, refrigeration, cauterization, shipping tubes, strong boxes and other equipment and methods to reduce damage, spoilage and waste; to increase storage life, transportation range and seasons of availability; and to classify plants according to their ornamental, medicinal, nutritional and other values
- **Directive interest in supervising** the work of technologists and technicians; may supervise landscape operations

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1* Dangerous chemical substances

Discomforts
D3* Odours

Employment Requirements

Education/Training
5, 6, 7, R

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- An apprenticeship program is available for horticulturists.
- A provincial licence to apply chemical fertilizers, fungicides, herbicides and pesticides may be required.

Workplaces/Employers

Landscape designers and contractors

Lawn service and tree care establishments

Municipal, provincial and national parks

Nurseries and greenhouses

Self-employment

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians (2221)

Botanists (in 2121 *Biologists and Related Scientists*)

Forestry Technologists and Technicians (2223)

Landscape Architects (2152)

Landscaping and Grounds Maintenance Contractors and Managers (8255)

Nursery and Greenhouse Operators and Managers (8254)

Nursery and Greenhouse Workers (8432)

Supervisors, Landscape and Horticulture (8256)

Remarks

*Environmental Conditions

- For some occupations in this group, **Hazards H1** (Dangerous chemical substances) and **Discomforts D3** (Odours) may also apply.

2225.4 Landscape Designers and Landscape Architectural Technicians and Technologists

Landscape designers and landscape architectural technicians and technologists survey and assess landscapes and assist in designing landscaped environments.

<

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to survey and assess sites, and to understand and apply the principles and practices of designing landscaped environments
- **Spatial perception** to prepare drawings and sketches and to build models of landscape designs
- **Motor co-ordination and finger and manual dexterity** to make measurements and to use small objects such as pencils, drawing pens and other drafting instruments
- **Objective interest in precision working** to survey sites and to prepare drawings and sketches
- **Methodical interest in analyzing** information to assess site data and prepare reports
- **Directive interest in assisting** landscape architects in designing landscaped environments

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6, 7, R

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Landscape designers and contractors
Lawn service and tree care establishments
Municipal, provincial and national parks
Nurseries and greenhouses
Self-employment

Similar Occupations Classified Elsewhere

Landscape Architects (2152)
Landscaping and Grounds Maintenance Contractors and Managers (8255)
Land Surveyors (2154)
Land Survey Technologists and Technicians (2254)
Nursery and Greenhouse Operators and Managers (8254)
Nursery and Greenhouse Workers (8432)
Supervisors, Landscape and Horticulture (8256)

2225.5 Landscape Gardeners

Landscape gardeners assist in landscaping grounds around residential, commercial and industrial establishments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	4	3

INTERESTS

OMD

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H1, H3, D3

EDUCATION/TRAINING

5, 6, 7, R

Examples of Job Titles

greenskeeper

landscape gardener

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plant and maintain private and public lawns and gardens
- **Motor co-ordination and manual dexterity** to load and unload flagstones, flowers and plants, peat moss and supplies
- **Objective interest in operating** equipment and using gardening tools to prepare soil, seed lawns, dig holes, trim shrubs and hedges, and maintain lawns and gardens
- **Methodical interest in copying** information to plant flowers, bulbs, shrubs and hedges according to prepared plans
- **Directive interest** in mixing chemical solutions to spray plants for weeds and insect control, and in preparing work reports

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1 Dangerous chemical substances
H3 Equipment, machinery, tools

Discomforts
D3 Odours

Employment Requirements

Education/Training
5, 6, 7, R

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- Experience as a landscape and grounds maintenance labourer may be required for landscape gardeners.
- An apprenticeship program is available for landscape gardeners.
- A provincial licence to apply chemical fertilizers, fungicides, herbicides and pesticides may be required.

Workplaces/Employers

Golf courses
Landscape designers and contractors
Lawn service and tree care establishments
Municipal, provincial and national parks
Nurseries and greenhouses
Self-employment

Similar Occupations Classified Elsewhere

Landscape Architects (2152)

Landscaping and Grounds Maintenance Contractors and Managers (8255)

Nursery and Greenhouse Operators and Managers (8254)

Nursery and Greenhouse Workers (8432)

Supervisors, Landscape and Horticulture (8256)

2225.6 Landscapers

Landscapers plan and construct landscaped environments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	3	4	3	4	3

INTERESTS

OMD

DATA PEOPLE THINGS (DPT)

384

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H1, H3, D3

EDUCATION/TRAINING

6, 7, R

Examples of Job Titles

landscaper

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles and practices of planning and constructing landscaped environments
- **Verbal ability** advise clients on issues related to landscaped environments
- **Spatial perception** to judge distances and relative positions when planning landscaped environments
- **Motor co-ordination and manual dexterity** to use equipment to construct landscaped environments and plant trees, shrubs and other plants
- **Objective interest** in operating equipment such as mowers, spreaders and sprayers and other tools to construct landscaped environments
- **Methodical interest** in compiling information to survey sites and prepare plans
- **Directive interest** in planning environments that may include trees, shrubberies, lawns, fences, decks, patios and other structures

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Hazards

- H1 Dangerous chemical substances
- H3 Equipment, machinery, tools

Discomforts

- D3 Odours

Employment Requirements

Education/Training

- 6, 7, R

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- Experience as a landscape and grounds maintenance labourer may be required for landscapers.
- A provincial licence to apply chemical fertilizers, fungicides, herbicides and pesticides may be required.

Workplaces/Employers

Golf courses

Landscape designers and contractors

Lawn service and tree care establishments

Municipal, provincial and national parks

Nurseries and greenhouses

Self-employment

Similar Occupations Classified Elsewhere

Landscape Architects (2152)

Landscaping and Grounds Maintenance Contractors and Managers (8255)

Nursery and Greenhouse Operators and Managers (8254)

Nursery and Greenhouse Workers (8432)

Supervisors, Landscape and Horticulture (8256)

2225.7 Lawn Care Specialists

Lawn care specialists apply products to customers' lawns and promote lawn care services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	3	4	3

INTERESTS

OMD

DATA PEOPLE THINGS (DPT)

564

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	4	2	4

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H1, H3, D3

EDUCATION/TRAINING

6, 7, R

Examples of Job Titles

lawn care specialist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess the health of lawns and determine required lawn applications; may specialize and care for trees and shrubs
- **Verbal ability** to review route packages and read customers' service agreements
- **Motor co-ordination and manual dexterity** to use broadcast spreaders, pressurized hoses from truck-mounted tanks and hand and backpack spraying equipment
- **Objective interest in operating** equipment to apply fertilizer, pesticides and other lawn care products
- **Methodical interest in copying** information to complete billing invoices and update service agreements
- **Directive interest in speaking** with home-owners and business clients to describe the purpose of service calls, to provide tips concerning mowing and watering practices, weed and insect control and other cultural practices; and to call on home-owners to solicit service agreements

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
4 Heavy

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1 Dangerous chemical substances
H3 Equipment, machinery, tools

Discomforts
D3 Odours

Employment Requirements

Education/Training
6, 7, R

- Completion of a university or college program in agronomy, arboriculture, horticulture, landscaping, landscape design or landscape technology is usually required.
- A provincial licence to apply chemical fertilizers, fungicides, herbicides and pesticides may be required.

Workplaces/Employers

Golf courses
Landscape designers and contractors
Lawn service and tree care establishments
Municipal, provincial and national parks
Nurseries and greenhouses
Self-employment

Similar Occupations Classified Elsewhere

Biological Technologists and Technicians
(2221)

Botanists (in 2121 *Biologists and Related Scientists*)

Forestry Technologists and Technicians
(2223)

Landscape Architects (2152)

Landscaping and Grounds Maintenance Contractors and Managers (8255)

Nursery and Greenhouse Operators and Managers (8254)

Nursery and Greenhouse Workers
(8432)

Supervisors, Landscape and Horticulture
(8256)

2231.1 Civil Engineering Technologists

Civil engineering technologists provide technical support and services to scientists, engineers and other professionals, or may work independently in fields such as structural engineering, municipal engineering, construction design and supervision, highways and transportation engineering, water resources engineering, geotechnical engineering and environmental protection.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	3	3	3	3	3

INTERESTS

IMd

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6, R

Examples of Job Titles

civil engineering technologist
construction technologist
foundation technologist
municipal engineering assistant
soil technologist – civil engineering
specifications writer, construction
structural design technologist
structural investigator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct field surveys, inspections and technical investigations of topography, soils, drainage and water supply systems, road and highway systems, and buildings and structures
- **Verbal ability** to prepare project schedules and reports
- **Numerical ability** to prepare cost and material estimates
- **Spatial perception** to prepare construction specifications, and to interpret and prepare engineering designs and drawings
- **Innovative interest** in **precision working** to develop designs and drawings from preliminary concepts and sketches
- **Methodical interest** in **analyzing** information to inspect and test construction materials; and in providing data for engineering projects
- **Directive interest** in **supervising** field surveys, inspections and technical investigations; may supervise, monitor and inspect construction projects

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6, R

- Completion of a two- or three-year college program in civil engineering technology or a closely related discipline is usually required for civil engineering technologists.
- Certification in civil engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A period of supervised work experience, usually two years, is required before certification.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Construction companies
Consulting engineering companies
Government departments
Industrial establishments
Public works departments
Transportation departments

Occupational Options

There is mobility to related occupations, such as drafting technologists and technicians and construction inspectors and estimators.

Progression to construction supervisors or construction managers is possible with experience.

Similar Occupations Classified Elsewhere

Architectural Technologists and Technicians (2251)

Construction Estimators (2234)

Construction Inspectors (2264)

Construction Managers (0711)

Drafting Technologists and Technicians (2253)

Land Survey Technologists and Technicians (2254)

2231.2 Civil Engineering Technicians

Civil engineering technicians provide technical support and services to scientists, engineers and other professionals, or may work independently in fields such as structural engineering, municipal engineering, construction design and supervision, highways and transportation engineering, water resources engineering, geotechnical engineering and environmental protection.

Profile Summary									Examples of Job Titles		
APTITUDES									bridge design technician building materials technician civil engineering technician highway technician municipal engineering assistant specifications writer, construction structural investigator		
G	V	N	S	P	Q	K	F	M			
2	3	3	2	3	3	3	3	3			
INTERESTS											
OMi											
DATA PEOPLE THINGS (DPT)											
371											
PHYSICAL ACTIVITIES (PA)											
V	C	H	B	L	S						
3	0	2	3	1	1						
ENVIRONMENTAL CONDITIONS (EC)											
L1, L3											
EDUCATION/TRAINING											
6, R											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to participate in field surveys, inspections and technical investigations of topography, soils, drainage and water supply systems, road and highway systems, and buildings and structures

- **Spatial perception** to prepare drawings and specifications
- **Methodical interest** in **compiling** information to provide data for projects
- **Objective interest** in **precision working** to perform technical functions in support of civil engineering activities
- **Innovative interest** in **assisting** in the development of specifications and drawings

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Employment Requirements

Education/Training
6, R

- Completion of a one- or two-year college program in civil engineering technology is usually required for civil engineering technicians.
- Certification in civil engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Construction companies
Consulting engineering companies
Government departments
Industrial establishments
Public works departments
Transportation departments

Occupational Options

There is mobility to related occupations, such as drafting technologists and technicians and construction inspectors and estimators.

Progression to construction supervisors or construction managers is possible with experience.

Similar Occupations Classified Elsewhere

Architectural Technologists and Technicians (2251)

Construction Estimators (2234)

Construction Inspectors (2264)

Construction Managers (0711)

Drafting Technologists and Technicians (2253)

Land Survey Technologists and Technicians (2254)

2232.1 Mechanical Engineering Technologists

Mechanical engineering technologists provide technical support and services or may work independently in mechanical engineering fields such as the design, development, maintenance and testing of machines, components, tools, heating and ventilating systems, power generation and power conversion plants, manufacturing plants and equipment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	3	3	3

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

aeronautical technologist

heating designer

HVAC (heating, ventilating and air conditioning) technologist

machine designer

marine engineering technologist

mechanical engineering technologist

mechanical technologist

mould designer

tool and die designer

tool designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct tests on machines, components and materials to determine their performance, strength, response to stress and other characteristics
- **Verbal ability** to prepare project schedules and reports, and to prepare contract and tender documents
- **Numerical ability** to prepare cost and material estimates
- **Spatial perception** to prepare and interpret conventional and computer-assisted design (CAD) engineering designs, drawings and specifications for machines and components, power transmission systems, process piping and heating, ventilating and air conditioning systems
- **Form perception** to inspect mechanical installations and construction
- **Objective interest in precision working** with instruments to design moulds, tools, dies, jigs and fixtures for use in manufacturing processes
- **Innovative interest in analyzing** results of tests conducted on machines, components and materials to determine their performance, strength, response to stress and other characteristics
- **Methodical interest in supervising** and monitoring installations, construction projects, maintenance programs and operations of mechanical plants; and in preparing operations and maintenance standards and schedules of mechanical plants

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training
6, R

- Completion of a two- or three-year college program in mechanical engineering technology is usually required for mechanical engineering technologists.
- Certification in mechanical engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A period of supervised work experience, usually two years, is required before certification.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Consulting engineering companies

Government departments

Institutions

Manufacturing and processing companies

Occupational Options

There is mobility to other related occupations such as technical sales or drafting technologists and technicians.

Progression to supervisory occupations such as mechanical construction supervisor, manufacturing supervisor or operations maintenance manager is possible with experience.

Similar Occupations Classified Elsewhere

Contractors and Supervisors, Trades and Related Workers (721)

Drafting Technologists and Technicians (2253)

Industrial Designers (2252)

Managers in Manufacturing and Utilities (091)

Technical Sales Specialists – Wholesale Trade (6221)

2232.2 Mechanical Engineering Technicians

Mechanical engineering technicians provide technical support and services or may work independently in mechanical engineering fields such as the design, development, maintenance and testing of machines, components, tools, heating and ventilating systems, power generation and power conversion plants, manufacturing plants and equipment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	3	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

6, R

Examples of Job Titles

heating designer
machine designer
mechanical engineering technician
mould designer
thermal station technician
tool and die designer
tool designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to carry out a limited range of mechanical tests of machines, components and materials
- **Spatial perception** to assist in preparing conventional and computer-assisted design (CAD) engineering designs, drawings and specifications
- **Methodical interest in compiling** information to carry out analyses of machines, components and materials
- **Objective interest in precision working** to assist in the design of moulds, tools, dies, jigs and fixtures for use in manufacturing processes; and in participating in the installation, repair and maintenance of machinery and equipment
- **Innovative interest in assisting** in the inspection of mechanical installations and construction projects

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools

Employment Requirements

Education/Training
6, R

- Completion of a one- or two-year college program in mechanical engineering technology is usually required for mechanical engineering technicians.
- Certification in mechanical engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Consulting engineering companies
Government departments
Institutions
Manufacturing and processing companies

Occupational Options

There is mobility to other related occupations such as technical sales or drafting technologists and technicians.

Progression to supervisory occupations such as mechanical construction supervisor, manufacturing supervisor or operations maintenance manager is possible with experience.

Similar Occupations Classified Elsewhere

Contractors and Supervisors, Trades and Related Workers (721)

Drafting Technologists and Technicians (2253)

Industrial Designers (2252)

Managers in Manufacturing and Utilities (091)

Technical Sales Specialists – Wholesale Trade (6221)

2233.1 Industrial Engineering and Manufacturing Technologists

Industrial engineering and manufacturing technologists may work independently or provide technical support and services in the development of production methods, facilities and systems, and the planning, estimating, measuring and scheduling of work.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	3	3	4	4	3

INTERESTS

IMd

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, +, R

Examples of Job Titles

CAD/CAM programmer
industrial engineering technologist
loss prevention technologist
manufacturing technologist
pulp and paper manufacturing technologist
quality assurance technologist
textile technologist
time study analyst

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop and conduct production, inventory and quality assurance programs in manufacturing and other industries
- **Verbal ability** to understand scientific and technical terms to develop and carry out work study and related programs, and to prepare schedules and reports
- **Numerical ability** to prepare cost estimates
- **Spatial perception** to design plant layouts and production facilities
- **Innovative interest in precision working** to develop applications using CAD/CAM (computer-assisted drafting, computer assisted manufacturing) for the control of robots, computer numerical control (CNC) machines and other manufacturing processes and operations; and in developing work study and related programs
- **Methodical interest in analyzing** information to develop and conduct safety training programs
- **Directive interest in supervising** to develop and carry out industrial health, safety and fire prevention plans and programs

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting

Limb Co-ordination	
1	Upper limb co-ordination

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
6, +, R

- Completion of a two- or three-year college program or equivalent in industrial engineering technology, pulp and paper technology, plastics technology, textile technology, manufacturing technology or in a related discipline is usually required for industrial engineering or manufacturing technologists.
- Certification in industrial engineering or manufacturing technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A college diploma in manufacturing technology and/or trade certification and experience in machining and tooling or metalworking is required for CAD-CAM/CNC programmers.
- A period of supervised work experience, usually two years, is required before certification.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Government departments
Insurance companies
Manufacturing companies and in other industries

Occupational Options

There is mobility to related fields such as technical sales.

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

CNC machine operators (in 951 *Machining, Metalworking, Woodworking and Related Machine Operators*)

Machinists and Related Occupations (723)

Technical Sales Specialists – Wholesale Trade (6221)

Textile technologists/technicians working in support of chemical dyeing and finishing and quality control technologists/technicians in food or chemical industries or laboratories (in 2211 *Chemical Technologists and Technicians*)

Remarks

Technologists in this group may specialize in the development of production processes, quality assurance programs, plans and schedules in a particular industrial area such as metal fabrication, plastics, pulp and paper, or textile manufacturing.

2233.2 Industrial Engineering and Manufacturing Technicians

Industrial engineering and manufacturing technicians may work independently or provide technical support and services in the development of production methods, facilities and systems, and the planning, estimating, measuring and scheduling of work.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	3	3	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, +, R

Examples of Job Titles

industrial engineering technician
manufacturing technician
planning technician
plastics manufacturing technician
scheduling technician – manufacturing

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply engineering principles involved in the development of production methods, facilities and systems in support of industrial and manufacturing engineers
- **Verbal and numerical ability** to assist in the development of estimates, schedules, specifications and reports
- **Spatial perception** to assist in the design of plant layouts
- **Objective interest in precision working** to conduct work measurement and other studies and to set machine and equipment controls
- **Methodical interest in compiling** operational or experimental data; and in collecting and analyzing data and samples in support of quality assurance and industrial health and safety programs
- **Innovative interest in assisting** engineers to develop manufacturing and processing procedures and variables, and to oversee production and inspect processes

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
3	Sitting, standing, walking
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
6, +, R

- Completion of a one- or two-year college program in industrial engineering technology or in a related discipline is usually required for industrial engineering or manufacturing technicians.
- Certification in industrial engineering or manufacturing technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A college diploma in manufacturing technology and/or trade certification and experience in machining and tooling or metalworking is required for CAD-CAM/CNC programmers.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Government departments
Insurance companies
Manufacturing companies and in other industries

Occupational Options

There is mobility to related fields such as technical sales.

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

CNC machine operators (in 951 *Machining, Metalworking, Woodworking and Related Machine Operators*)

Machinists and Related Occupations (723)

Technical Sales Specialists – Wholesale Trade (6221)

Textile technologists/technicians working in support of chemical dyeing and finishing and quality control technologists/technicians in food or chemical industries or laboratories (in 2211 *Chemical Technologists and Technicians*)

Remarks

Technicians in this group may specialize in the development of production processes, quality assurance programs, plans and schedules in a particular industrial area such as metal fabrication, plastics, pulp and paper, or textile manufacturing.

2234 Construction Estimators

Construction estimators analyze costs of and prepare estimates on civil engineering, architectural, structural, electrical and mechanical construction projects.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

218

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6, R

Examples of Job Titles

chief estimator – construction
construction estimator
cost estimator – construction
principal estimator – construction
professional quantity surveyor
quantity surveyor – construction

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to prepare cost estimates of materials, labour and equipment for construction projects based on contract bids, quotations, schematic drawings and specifications
- **Verbal ability** to advise on tendering procedures, and to liaise, consult and communicate with engineers, architects, owners, contractors and subcontractors
- **Numerical ability** to prepare cost and expenditure statements and forecasts at regular intervals during projects
- **Methodical interest** in establishing and maintaining tendering processes, in setting up cost monitoring and reporting systems and procedures, and in preparing and maintaining directories of suppliers, contractors and subcontractors
- **Innovative interest** in analyzing information to examine tenders and recommend tender awards, and to prepare economic feasibility studies on changes and adjustments to cost estimates
- **Directive interest** in negotiating contracts; and in managing and co-ordinating construction projects and preparing construction progress schedules

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	0	Not relevant
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
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Employment Requirements

- Education/Training
5+, 6, R
- Completion of secondary school is required.
 - Completion of a three-year college program in civil or construction engineering technology or several years of experience as a qualified tradesperson in a construction trade such as plumbing, carpentry or electrical, are required.
 - Certification by the Canadian Institute of Quantity Surveyors is usually required.

Workplaces/Employers

Commercial construction companies
Industrial construction companies
Major electrical, mechanical and trade contractors
Residential construction companies
Self-employment

Occupational Options

Progression to more senior positions in this group, such as senior estimator or to construction management positions, is possible with experience.

Similar Occupations Classified Elsewhere

- Architectural Technologists and Technicians* (2251)
Civil Engineers (2131)
Civil Engineering Technologists and Technicians (2231)
Construction Managers (0711)

Remarks

Estimators may specialize in estimating costs for structural, electrical and mechanical construction projects.

2241.1 Electrical and Electronics Engineering Technologists

Electrical and electronics engineering technologists may work independently or provide technical support and services in the design, development, testing, production and operation of electrical and electronic equipment and systems.

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design, develop and test power equipment and systems, industrial process control systems, telecommunication, broadcast, recording and audio-visual systems, micro-electronic systems and circuits, computers, computer systems and networks, and computer software
- **Verbal and numerical ability** to write specifications, schedules and technical reports, and to control schedules and budgets
- **Spatial and form perception** to interpret and prepare engineering drawings and specifications, and to test prototypes and products to ensure that they adhere to standards
- **Objective interest in precision working** to set up and operate specialized and standard equipment to test the performance of components, assemblies and systems
- **Innovative interest in analyzing** information to carry out applied research in the fields of electrical and electronic engineering and physics under the direction of scientists and engineers; and in diagnosing and analyzing the performance of components, assemblies and systems
- **Methodical interest in supervising** the building and testing of prototypes according to general instructions and established standards; and in conducting and supervising the installation, commissioning and operation of electrical and electronic equipment and systems other than aircraft electronics or instruments

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H4 Electricity

Employment Requirements

Education/Training

6, R

- Completion of a two- or three-year college program in electrical or electronics engineering technology, computer engineering technology, telecommunications technology or an equivalent is usually required for electrical or electronics engineering technologists.
- Certification in electrical or electronics engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A period of supervised work experience, usually two years, is required before certification.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Communications companies

Consulting firms

Electrical utilities

Governments

Manufacturers of electrical and electronic equipment

Manufacturing, processing and transportation industries

Occupational Options

There is mobility to other related occupations such as technical sales, electronics service technicians, instrument technicians and avionics technicians.

Progression to managerial positions in engineering, production or operations is possible with experience.

Similar Occupations Classified Elsewhere

Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors (2244)

Electronic Service Technicians (Household and Business Equipment) (2242)

Industrial Instrument Technicians and Mechanics (2243)

Technical Sales Specialists – Wholesale Trade (6221)

2241.2 Electrical and Electronics Engineering Technicians

Electrical and electronics engineering technicians may work independently or provide technical support and services in the design, development, testing, production and operation of electrical and electronic equipment and systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	3	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H4

EDUCATION/TRAINING

6, R

Examples of Job Titles

electrical engineering technician
electronics engineering technician
electronics manufacturing technician
microwave maintenance technician
production support technician – electronics manufacturing

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist in the design, development and testing of electrical and electronic components, equipment and systems
- **Verbal and numerical ability** to assist in the preparation of estimates, schedules, budgets, specifications and reports
- **Spatial perception** to interpret and prepare engineering drawings and specifications
- **Form perception** to assist in inspection, testing, adjusting and evaluation of components and assemblies to ensure that they conform with product specifications and tolerances
- **Objective interest in precision working** to conduct life tests (burn-ins) on assemblies, to install, operate and maintain electrical and electronic equipment and systems, and to calibrate equipment and instruments according to technical manuals and written instructions
- **Methodical interest in compiling** and collecting operational and experimental data; and in assisting in building and testing prototypes to specifications
- **Innovative interest in assisting** to carry out a limited range of technical functions in support of research in electrical and electronic engineering and physics

Physical Activities

- Vision**
2 Near vision
- Colour Discrimination**
1 Relevant
- Hearing**
2 Verbal interaction

- Body Position**
3 Sitting, standing, walking

- Limb Co-ordination**
1 Upper limb co-ordination

- Strength**
1 Limited

Environmental Conditions

- Location**
L1 Regulated inside climate

- Hazards**
H4 Electricity

Employment Requirements

- Education/Training**
6, R

- Completion of a one- or two-year college program in electrical or electronics engineering technology is usually required for electrical or electronics engineering technicians.
- Certification in electrical or electronics engineering technology or in a related field is available through provincial associations of engineering/applied science technologists and technicians and may be required for some positions.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Communications companies
Consulting firms
Electrical utilities
Governments
Manufacturers of electrical and electronic equipment
Manufacturing, processing and transportation industries

Occupational Options

There is mobility to other related occupations such as technical sales, electronics service technicians, instrument technicians and avionics technicians.

Progression to managerial positions in engineering, production or operations is possible with experience.

Similar Occupations Classified Elsewhere

Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors (2244)

Electronic Service Technicians (Household and Business Equipment) (2242)

Industrial Instrument Technicians and Mechanics (2243)

Technical Sales Specialists – Wholesale Trade (6221)

2242 Electronic Service Technicians (Household and Business Equipment)

Electronic service technicians service and repair household and business electronic equipment such as audio and video systems, computers and peripherals, office equipment and other consumer electronic equipment and assemblies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	3	4	2	2	2

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	4	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H4

EDUCATION/TRAINING

4, 5, 6, R

Examples of Job Titles

alarm system technician
audio-video service technician
computer service technician
electronic service technician apprentice
electronic service technicians supervisor
field service technician, electronic products
office equipment service technician
photocopy machine technician
radio and television service technician
satellite antenna servicer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to install, maintain and repair household and business electronic equipment such as televisions, radios, video cassette recorders, stereo equipment, photocopiers, computers and peripherals
- **Verbal ability** to complete test and maintenance reports
- **Spatial and form perception** to visualize the relationships of parts to assemblies and installation layouts from drawings and circuit diagrams
- **Motor co-ordination and finger and manual dexterity** to use soldering tools and other hand and power tools
- **Objective interest in precision working** to adjust, align, replace and repair equipment, assemblies and components following manuals and schematics; and to inspect and test equipment, components and assemblies using multimeters, circuit testers, oscilloscopes, logic probes and other test instruments, tools and equipment
- **Innovative interest in analyzing** equipment to diagnose and locate circuit, component and equipment faults
- **Methodical interest in speaking** to customers regarding equipment malfunctions to complete work orders; may supervise other electronic equipment service technicians

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
2* Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools
H4 Electricity

Employment Requirements

Education/Training
4, 5, 6, R

- Completion of a two- to three-year college program in electronics
or
completion of a four-year apprenticeship program in electronic servicing and repair
or
completion of high school or college courses in electronics and on-the-job training is required.

- Trade certification for electronic technician, consumer products is compulsory in Alberta and available, but voluntary, in Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, British Columbia, Nunavut, the Northwest Territories and the Yukon.

- Interprovincial trade certification (Red Seal) is also available to qualified Electronics Technicians – Consumer Products.

- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Electronic service and retail establishments

Service departments of electronic manufacturing companies

Wholesale distributors

Occupational Options

Progression to supervisory positions is possible with experience.

Red Seal trade certification allows for interprovincial mobility.

Similar Occupations Classified Elsewhere

Electric Appliance Servicers and Repairers (7332)

Electrical and Electronics Engineering Technologists and Technicians (2241)

Telecommunications Installation and Repair Workers (7246)

Remarks

*Physical Activities

- For some occupations in this group, Strength 3 (Medium) may also apply.

2243 Industrial Instrument Technicians and Mechanics

Industrial instrument technicians and mechanics repair, maintain, calibrate, adjust, and install industrial measuring and controlling instrumentation.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	2	2	2

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

5, 6+, R

Examples of Job Titles

apprentice industrial instrument mechanic
industrial instrument mechanic
instrument technician, industrial
instrumentation technician, industrial
process control equipment mechanic

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to consult manufacturers' manuals, circuit diagrams and blueprints to determine test and maintenance procedures for instruments used to measure and control flow, level, pressure, temperature, chemical composition and other variables in manufacturing and processing
- **Verbal ability** to complete test and maintenance reports
- **Motor co-ordination and finger and manual dexterity** to calibrate components and instruments according to manufacturers' specifications, and to test and repair operation of instruments
- **Objective interest in precision working** to repair and adjust system components such as sensors, transmitters and programmable logic controllers, remove and replace defective parts and to install control and measurement instruments on existing and new plant equipment and processes
- **Innovative interest in analyzing** to inspect and test instruments to diagnose faults using pneumatic, electrical and electronic testing devices and precision measuring instruments
- **Methodical interest in speaking** to consult with and advise process operators; and in performing scheduled preventive maintenance

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools

Employment Requirements

Education/Training
5, 6+, R

- Completion of secondary school is usually required.
- Completion of a four- or five-year apprenticeship program in industrial instrument repair
or
completion of a two-year college program in industrial instrumentation technology and several years of work experience are usually required for trade certification.
- Industrial instrument mechanic trade certification is available, but voluntary, in Newfoundland and Labrador, Nova Scotia, Prince Edward Island, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Nunavut, the Northwest Territories and the Yukon.
- Interprovincial trade certification (Red Seal) is also available to qualified industrial instrument mechanics.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Hydro power generating utilities
Industrial instrument companies
Industrial instrument servicing establishments
Manufacturing companies
Mining companies
Natural gas companies
Nuclear power generating utilities
Petrochemical companies
Pulp and paper processing companies

Occupational Options

Progression to supervisory positions is possible with experience.

Red Seal trade certification allows for interprovincial mobility.

Similar Occupations Classified Elsewhere

Aircraft instrument technicians (in 2244 *Aircraft Instrument; Electrical and Avionics Mechanics, Technicians and Inspectors*)

Electrical and Electronics Engineering Technologists and Technicians (2241)

Industrial mechanics (in 7311 *Construction Millwrights and Industrial Mechanics (Except Textile)*)

2244.1 Aircraft Instrument Mechanics and Technicians

Aircraft instrument mechanics and technicians install, adjust, repair, overhaul and test engine, navigation and gyroscopic instrument components and aircraft instruments used for measuring and indicating physical characteristics such as altitude, airspeed, temperature and pressure.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	4	2	1	1

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	4	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H4, D1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

aircraft instrument mechanic

aircraft instrument technician

instrument overhaul and repair mechanic – avionics

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to repair, overhaul, install, adjust and test aircraft instruments
- **Spatial perception** to visualize, from drawings, the relationship and arrangement of parts in order to calibrate precision instruments
- **Form perception** to examine instruments for defects and signs of wear
- **Motor co-ordination and finger dexterity** to manipulate small parts of instruments, test equipment and precision hand tools
- **Manual dexterity** to disassemble faulty instruments, using hand tools, and to repair, clean and lubricate parts
- **Objective interest in precision working** to adjust components to revised tolerances and to test instruments using electrical and electronic test equipment, micrometers, pressure gauges and vacuum-pump testers
- **Methodical interest** in testing instruments to ensure that they conform to operating specifications
- **Innovative interest in analyzing** data from equipment tests to diagnose causes of instrument malfunctions

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools
- H4 Electricity

Discomforts

- D1 Noise

Employment Requirements

Education/Training

6+, R

- Aircraft instrument mechanics and technicians require completion of a two- to three-year college program in avionics or electronics.
- Four years of on-the-job or company apprenticeship training is required for all mechanics and technicians in this group.

- Inspectors, mechanics and technicians who sign maintenance releases and certify airworthiness require an Aircraft Maintenance Engineer's (AME) licence issued by Transport Canada.
- Industry certification is available from the Canadian Aviation Maintenance Council for some occupations in this group.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Aircraft maintenance organizations

Aircraft manufacturers

Aircraft repair and overhaul establishments

Airlines

Armed forces

Other aircraft operators

Occupational Options

Progression to supervisory positions within specific areas of expertise is possible with experience.

Inspectors, maintenance technicians and mechanics may acquire further endorsements to their AME licence, allowing them to inspect and certify a broader range of aircraft and avionics systems.

An AME licence can be obtained by fulfilling the education and training requirements as stated above and passing Transport Canada AME examinations.

Similar Occupations Classified Elsewhere

Aircraft Assemblers and Aircraft Assembly Inspectors (9481)

Aircraft mechanics and maintenance engineers who maintain and inspect aircraft structures, mechanical, hydraulic or propulsion systems (in 7315 *Aircraft Mechanics and Aircraft Inspectors*)

Airworthiness inspectors – government (in 2262 *Engineering Inspectors and Regulatory Officers*)

Electrical Mechanics (7333)

Industrial Instrument Technicians and Mechanics (2243)

Remarks

Aircraft mechanics and technicians who work in repair and overhaul shops service and test electrical, electronic and instrument components.

Avionics mechanics and technicians who work in maintenance hangars troubleshoot, repair, install and inspect aircraft systems and components.

2244.2 Aircraft Electrical Mechanics and Technicians

Aircraft electrical mechanics and technicians install, repair and service aircraft electrical equipment and systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	4	2	1	1

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	4	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H4, D1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

aircraft electrical technician

aircraft electrician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to repair, overhaul, modify, install and test aircraft electrical systems and equipment
- **Spatial perception** to visualize equipment layout from circuit diagrams and drawings, and to incorporate modifications following these drawings
- **Form perception** to recognize structural and mechanical defects, and to watch for correct operations of relays, instruments and lighting
- **Motor co-ordination and finger dexterity** to manipulate screws, wires and other small parts when installing, removing and disassembling equipment for repair
- **Manual dexterity** to handle small parts and use hand tools, power tools and electrical test equipment
- **Objective interest in precision working** to test, overhaul, repair and modify electrical systems and equipment
- **Methodical interest** in measuring voltage, current and resistance at specified locations when troubleshooting faults
- **Innovative interest in analyzing** data from observations of equipment in operation, by examinations of parts and from results of electrical tests, to diagnose faults

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
1	Relevant
Hearing	
1	Limited
Body Position	
4	Other body positions
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
2	Light

Environmental Conditions

Location	
L1	Regulated inside climate
Hazards	
H3	Equipment, machinery, tools
H4	Electricity
Discomforts	
D1	Noise

Employment Requirements

Education/Training
6+, R

- Aircraft electrical mechanics and technicians require completion of a college program as an electrical or electronic technician.
- Four years of on-the-job or company apprenticeship training is required for all mechanics and technicians in this group.

- Inspectors, mechanics and technicians who sign maintenance releases and certify airworthiness require an Aircraft Maintenance Engineer's (AME) licence issued by Transport Canada.
- Industry certification is available from the Canadian Aviation Maintenance Council for some occupations in this group.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Aircraft maintenance organizations
Aircraft manufacturers
Aircraft repair and overhaul establishments
Airlines
Armed forces
Other aircraft operators

Occupational Options

Progression to supervisory positions within specific areas of expertise is possible with experience.

Inspectors, maintenance technicians and mechanics may acquire further endorsements to their AME licence, allowing them to inspect and certify a broader range of aircraft and avionics systems.

An AME licence can be obtained by fulfilling the education and training requirements as stated above and passing Transport Canada AME examinations.

Similar Occupations Classified Elsewhere

Aircraft Assemblers and Aircraft Assembly Inspectors (9481)

Aircraft mechanics and maintenance engineers who maintain and inspect aircraft structures, mechanical, hydraulic or propulsion systems (in 7315 *Aircraft Mechanics and Aircraft Inspectors*)

Airworthiness inspectors – government (in 2262 *Engineering Inspectors and Regulatory Officers*)

Electrical Mechanics (7333)

Industrial Instrument Technicians and Mechanics (2243)

Remarks

Aircraft mechanics and technicians who work in repair and overhaul shops service and test electrical, electronic and instrument components.

Avionics mechanics and technicians who work in maintenance hangars troubleshoot, repair, install and inspect aircraft systems and components.

2244.3 Avionics Mechanics and Technicians

Avionics mechanics and technicians modify, repair and overhaul aircraft electronic systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	4	2	1	1

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	4	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H4, D1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

aircraft maintenance engineer (AME) – avionics
avionics maintenance technician
avionics technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to troubleshoot, repair and overhaul, test, modify, install and inspect aircraft electronic systems and components, including communications, navigation, and autoflight equipment
- **Spatial and form perception** to visualize equipment layouts from circuit diagrams and drawings
- **Motor co-ordination and finger dexterity** to manipulate screws, wires and other small parts when repairing and overhauling systems and equipment
- **Manual dexterity** to handle small parts and use hand tools, power tools and test equipment
- **Objective interest in precision working** to modify, adjust and test avionics systems and equipment
- **Methodical interest** in ensuring that installation, maintenance, repair and overhaul of avionics systems meet established specifications
- **Innovative interest in analyzing** data from observations of equipment in operation, by examinations of parts and from results of electronic tests, to troubleshoot faults

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools
- H4 Electricity

Discomforts

- D1 Noise

Employment Requirements

Education/Training

6+, R

- Avionics mechanics and technicians require completion of a two- to three-year college program in avionics or electronics.
- Four years of on-the-job or company apprenticeship training is required for all mechanics and technicians in this group.

- Avionics mechanics and technicians who sign maintenance releases and certify airworthiness require an Aircraft Maintenance Engineer's (AME) licence (category E – avionics) issued by Transport Canada.
- Industry certification is available from the Canadian Aviation Maintenance Council for some occupations in this group.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Aircraft maintenance organizations

Aircraft manufacturers

Aircraft repair and overhaul establishments

Airlines

Armed forces

Other aircraft operators

Occupational Options

Progression to supervisory positions within specific areas of expertise is possible with experience.

Avionics maintenance technicians and mechanics may acquire further endorsements to their AME licence, allowing them to inspect and certify a broader range of aircraft and avionics systems.

An AME licence can be obtained by fulfilling the education and training requirements as stated above and passing Transport Canada AME examinations.

Similar Occupations Classified Elsewhere

Aircraft Assemblers and Aircraft Assembly Inspectors (9481)

Aircraft mechanics and maintenance engineers who maintain and inspect aircraft structures, mechanical, hydraulic or propulsion systems (in 7315 *Aircraft Mechanics and Aircraft Inspectors*)

Airworthiness inspectors – government (in 2262 *Engineering Inspectors and Regulatory Officers*)

Electrical Mechanics (7333)

Industrial Instrument Technicians and Mechanics (2243)

Remarks

Aircraft mechanics and technicians who work in repair and overhaul shops service and test electrical, electronic and instrument components.

Avionics mechanics and technicians who work in maintenance hangars troubleshoot, repair, install and inspect aircraft systems and components.

2244.4 Avionics Inspectors

Avionics inspectors examine instrument, electrical and avionics systems following assembly, modification, repair and overhaul.

Profile Summary

APTITUDES

G

V

N

S

P

Q

K

F

M

3

3

3

2

2

4

3

2

2

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V

C

H

B

L

S

2

1

1

3

1

2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H4, D1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

aircraft instrument inspector

avionics inspector

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect instrument, electrical and avionics components and systems following assembly, modification, repair and overhaul

- **Spatial and form perception** to visualize equipment layouts from circuit diagrams and drawings
- **Objective interest in precision working** to inspect and test aircraft instrument, electrical and avionics systems

- **Methodical interest** in ensuring that the installation, maintenance, repair and overhaul of avionics components and systems meet standards of performance and safety
- **Innovative interest in analyzing** data obtained from inspection and testing of components and systems

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools
H4 Electricity

Discomforts

- D1 Noise

Employment Requirements

Education/Training

6+, R

- Avionics inspectors require completion of a two- to three-year college program in avionics or electronics *and* three to five years of experience as an avionics mechanic or technician.
- Avionics inspectors who sign maintenance releases and certify airworthiness require an Aircraft Maintenance Engineer's (AME) licence (category E – avionics) issued by Transport Canada.
- Industry certification is available from the Canadian Aviation Maintenance Council for some occupations in this group.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Aircraft maintenance organizations

Aircraft manufacturers

Aircraft repair and overhaul establishments

Airlines

Armed forces

Other aircraft operators

Occupational Options

Progression to supervisory positions within specific areas of expertise is possible with experience.

Avionics inspectors may acquire further endorsements to their AME licence, allowing them to inspect and certify a broader range of aircraft and avionics systems.

An AME licence can be obtained by fulfilling the education and training requirements as stated above and passing Transport Canada AME examinations.

Similar Occupations Classified Elsewhere

Aircraft Assemblers and Aircraft Assembly Inspectors (9481)

Aircraft mechanics and maintenance engineers who maintain and inspect aircraft structures, mechanical, hydraulic or propulsion systems (in 7315 *Aircraft Mechanics and Aircraft Inspectors*)

Aircraft nondestructive inspection technicians (in 2261 *Nondestructive Testers and Inspectors*)

Airworthiness inspectors – government (in 2262 *Engineering Inspectors and Regulatory Officers*)

Electrical Mechanics (7333)

Industrial Instrument Technicians and Mechanics (2243)

2251 Architectural Technologists and Technicians

Architectural technologists and technicians may work independently or provide technical assistance to professional architects and civil design engineers in conducting research, preparing drawings, architectural models, specifications and contracts and in supervising construction projects.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	3	3	4

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

- architectural design technician
- architectural design technologist
- architectural technician
- architectural technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to perform technical functions in architecture, primarily in support of design development, estimates and site supervision
- **Verbal ability** to prepare contracts and bidding documents
- **Numerical ability** to prepare cost estimates and listings of quantities of materials from drawings and instructions
- **Spatial perception** to interpret and prepare manual and CAD (computer-assisted design) drawings and specifications
- **Form perception** to observe details and make visual comparisons when examining drawings
- **Innovative interest in analyzing** building codes, by-laws, space requirements, site requirements and other technical documents and reports
- **Methodical interest in supervising** to represent building architects on construction sites to ensure compliance with design specifications and maintenance of desired standards of materials and quality of work; may supervise construction projects and co-ordinate, monitor and inspect work done by others; may supervise draftspeople, technicians and technologists on architectural teams
- **Objective interest in precision working** to assist in the development of architectural designs and to construct architectural and display models, and 3-D virtual models of architectural designs

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6, R

- Completion of a two- to three-year college program in architectural technology or a related subject is usually required.
- Certification in architectural technology or in a related field through provincial associations of architectural or engineering/applied science technologists and technicians may be required by employers.
- A period of supervised work experience, usually two years, is required before certification.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Architectural firms

Construction firms

Governments

Occupational Options

There is mobility to other related occupations such as drafters, civil engineering technologists and technicians, construction estimators and construction inspectors.

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Architects (2151)

Civil Engineering Technologists and Technicians (2231)

Construction Estimators (2234)

Construction Inspectors (2264)

Construction Managers (0711)

Drafting Technologists and Technicians (2253)

Land Survey Technologists and Technicians (2254)

2252 Industrial Designers

Industrial designers conceptualize and produce designs for manufactured products.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	2	4	2	2	3

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

161

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

furniture designer
industrial design consultant
industrial designer
industrial products designer
product designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to analyze intended use of products and user preferences and to prepare product specifications and guidelines for production
- **Verbal ability** to consult with clients, engineers and production specialists to establish product requirements
- **Spatial and form perception** to prepare design concepts, sketches and models for approval
- **Motor co-ordination and finger dexterity** to work with small objects such as drafting instruments, scissors and brushes
- **Innovative interest in co-ordinating** information to conduct research into costs, properties of production materials and methods of production
- **Methodical interest in speaking** to consult with engineers and production staff during manufacturing stages
- **Objective interest in precision working** to prepare manufacturing drawings and to construct design prototypes

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
1 Relevant
- Hearing
2 Verbal interaction

- Body Position
1 Sitting
- Limb Co-ordination
1 Upper limb co-ordination

- Strength
1 Limited

Environmental Conditions

- Location
L1 Regulated inside climate

Employment Requirements

- Education/Training
6+, 7+
- A university degree in industrial design, architecture, engineering or a college diploma in industrial design is required.
 - Creative ability, as demonstrated by a portfolio of work, is required.

Workplaces/Employers

- Manufacturing industries
- Private design firms
- Self-employment

Occupational Options

- There is mobility among positions in this group.
- Mobility is possible to other design occupations.

Similar Occupations Classified Elsewhere

- Architectural Technologists and Technicians* (2251)
- Civil engineering design technologists (in 2231 *Civil Engineering Technologists and Technicians*)
- Electrical and electronics design technologists (in 2241 *Electrical and Electronics Engineering Technologists and Technicians*)
- Engineering design and drafting technicians and technologists (in 2253 *Drafting Technologists and Technicians*)
- Graphic Designers and Illustrators* (5241)
- Interior Designers* (5242)
- Mechanical engineering equipment designers (in 2232 *Mechanical Engineering Technologists and Technicians*)
- Theatre, Fashion, Exhibit and Other Creative Designers* (5243)

2253.1 Drafting Technologists

Drafting technologists prepare engineering designs, drawings and related technical information, in multidisciplinary engineering teams or in support of engineers, architects and industrial designers, or they may work independently.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	2	2	3

INTERESTS

MIO

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

architectural draftsperson
computer-assisted design and drafting technologist
design and drafting technologist
drafting technologist
draftsperson
electrical draftsperson
electromechanical draftsperson
electronic draftsperson
engineering design and drafting technologist
mechanical draftsperson
steel detailer – drafting
structural draftsman
structural steel drafter-detailer
supervisor, drafting office

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop and prepare engineering designs and drawings from preliminary concepts, sketches, engineering calculations, specification sheets and other data
- **Verbal ability** to write technical reports and to prepare contracts and tender documents
- **Numerical ability** to prepare construction specifications, costs and material estimates
- **Spatial and form perception** to develop and prepare design sketches
- **Motor co-ordination and finger dexterity** to manipulate and adjust drafting instruments
- **Methodical interest** in supervising and training other technologists, technicians and draftspersons; and in ensuring that drawings conform to specifications
- **Innovative interest** in analyzing data to complete documentation packages and produce drawing sets
- **Objective interest** in precision working to operate computer assisted design (CAD) and drafting workstations, and to check and verify conformance of drawings to design data

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6, R

- Completion of secondary school is usually required.
- Completion of a two- to three-year college program in engineering design and drafting technology, or in a related field is usually required for drafting and design technologists.
- Trade certification for draftspersons is available, but voluntary in Ontario.
- Certification in engineering design and drafting technology or in a related field through provincial associations of engineering/applied science technologists and technicians may be required by employers.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Architectural and engineering consulting firms

Construction companies

Governments

Other establishments

Utility, resource and manufacturing companies

Occupational Options

Senior and supervisory drafting and design technology workers require experience.

Mobility is possible to civil, mechanical, electrical or other engineering design technologies through educational or work specialization.

Similar Occupations Classified Elsewhere

Architectural design technologists (in 2251 *Architectural Technologists and Technicians*)

Civil engineering design technologists (in 2231 *Civil Engineering Technologists and Technicians*)

Electrical and electronics engineering design technologists (in 2241 *Electrical and Electronics Engineering Technologists and Technicians*)

Industrial Designers (2252)

Mechanical engineering design technologists (in 2232 *Mechanical Engineering Technologists and Technicians*)

2253.2 Drafting Technicians

Drafting technicians prepare engineering designs, drawings and related technical information, in multidisciplinary engineering teams or in support of engineers, architects and industrial designers, or they may work independently.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	3	2	2	3

INTERESTS

MIO

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6, R

Examples of Job Titles

architectural draftsperson
computer-assisted drafting (CAD) technician
drafting technician
draftsperson
electrical draftsperson
electromechanical draftsperson
electronic draftsperson
mechanical draftsperson
steel detailer – drafting
structural draftsperson
structural steel drafter-detailer
supervisor, drafting office

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop and prepare engineering drawings, plans, diagrams and layouts from sketches
- **Spatial and form perception** to visualize three-dimensional objects and forms when preparing diagrams and layouts
- **Motor co-ordination and finger dexterity** to manipulate and adjust drafting instruments and tools
- **Methodical interest in compiling** data on dimensions, locations, elevations, cross-sections, projections and other details to verify completeness and accuracy of final drawings
- **Innovative interest in assisting** technologists and engineers to prepare engineering drawings, diagrams and layouts
- **Objective interest in precision working** to operate computer-assisted drafting equipment and conventional drafting stations, and to use measuring instruments

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
1	Limited
Body Position	
1	Sitting
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
4, 5, 6, R

- Completion of a one- to two-year college program in drafting
or
completion of a three- to four-year apprenticeship program
or
four to five years of related experience plus completion of college or industry courses in drafting are usually required for drafting technicians.
- Trade certification for draftspersons is available, but voluntary, in Ontario.
- Certification in engineering design and drafting technology or in a related field through provincial associations of engineering/applied science technologists and technicians may be required by employers.
- A period of supervised work experience, usually two years, is required before certification.

Workplaces/Employers

Architectural and engineering consulting firms
Construction companies
Governments
Other establishments
Utility, resource and manufacturing companies

Occupational Options

Senior and supervisory drafting and design technology workers require experience.

Mobility is possible to civil, mechanical, electrical or other engineering design technologies through educational or work specialization.

Similar Occupations Classified Elsewhere

Architectural design technologists (in 2251 *Architectural Technologists and Technicians*)

Civil engineering design technologists (in 2231 *Civil Engineering Technologists and Technicians*)

Electrical and electronics engineering design technologists (in 2241 *Electrical and Electronics Engineering Technologists and Technicians*)

Industrial Designers (2252)

Mechanical engineering design technologists (in 2232 *Mechanical Engineering Technologists and Technicians*)

2254.1 Land Survey Technologists

Land survey technologists conduct or participate in surveys to determine the exact locations and relative positions of natural features and other structures on the earth's surface, underground and underwater.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	2	2	3	3	3	3

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6, R

Examples of Job Titles

engineering survey technologist
geodetic survey technologist
geomatics technologist – surveying
transit operator – surveying

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct field surveys to determine exact locations and relative positions of natural features and other structures on the earth's surface, underground and underwater
- **Verbal ability** to prepare notes, plans and reports
- **Numerical ability** to compute trigonometric and other calculations to plot features, contours and areas to specific scales
- **Spatial perception** to visualize and plot topographical data such as elevations, angles, distances and contour lines on drawings and charts
- **Form perception** to obtain precise readings from survey instruments and to examine maps and aerial photographs
- **Objective interest in precision working** to operate instruments and computer equipment to measure distance, angles, elevations and contours; to determine precise geographic locations using global positioning systems (GPS) equipment; and to prepare detailed drawings, charts and plans
- **Innovative interest in analyzing** latitude, longitude and angles to plot features, contours and areas; and in assisting survey engineers and professional surveyors to develop methods and procedures for conducting field surveys
- **Methodical interest in supervising** and co-ordinating field survey activities; and in recording measurements and other information obtained during field surveys

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6, R

- Completion of secondary school is usually required.
- Completion of a two- to three-year college program in geomatics or survey technology is usually required for survey technologists.
- Certification by provincial associations of survey technicians and technologists may be required by some employers.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Architectural and engineering firms
Governments
Private sector surveying establishments

Occupational Options

Mobility is possible among the various occupations in this group.

Progression to supervisory positions is possible with experience.

Progression to a land surveyor position is possible with completion of professional surveyor examinations and certification.

Similar Occupations Classified Elsewhere

Drafting Technologists and Technicians (2253)

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geological, geophysical, hydrographic and mine survey technologists (in 2212 *Geological and Mineral Technologists and Technicians*)

Land Surveyors (2154)

Mapping and Related Technologists and Technicians (2255)

Remarks

Land survey technologists may specialize in one of the following types of surveys: geodetic survey, topographic survey, legal (cadastral) survey or engineering survey.

Geomatics is an interdisciplinary field encompassing the collection, analysis and presentation of geographically referenced data.

2254.2 Land Survey Technicians

Land survey technicians participate in surveys to determine the exact locations and relative positions of natural features and other structures on the earth's surface, underground and underwater.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	3	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6, R

Examples of Job Titles

land survey technician
legal survey technician
topographic survey technician
transit operator – surveying

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to participate in field surveys to determine exact locations and relative positions of natural features and other structures on the earth's surface, underground and underwater
- **Numerical ability** to assist in the calculation of measurements obtained during surveys
- **Spatial perception** to visualize and plot topographical data such as elevations, angles, distances and contour lines on drawings and charts
- **Form perception** to obtain precise readings from surveying instruments and to examine maps and aerial photographs
- **Objective interest in precision working** to operate survey instruments and computer equipment to measure distance, angles, elevations and contours
- **Methodical interest in compiling** information to keep records, measurements and other information in systematic order
- **Innovative interest in assisting** in the preparation of detailed drawings and in the analyses of measurements obtained during field surveys

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6, R

- Completion of a one- to two-year college program in geomatics or survey technology is usually required for survey technicians.
- Certification by provincial associations of survey technicians and technologists may be required by some employers.

Workplaces/Employers

Architectural and engineering firms
Governments
Private sector surveying establishments

Occupational Options

Mobility is possible among the various occupations in this group.

Progression to supervisory positions is possible with experience.

Progression to a land surveyor position is possible with completion of professional surveyor examinations and certification.

Similar Occupations Classified Elsewhere

Drafting Technologists and Technicians
(2253)

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geological, geophysical, hydrographic and mine survey technologists (in 2212 *Geological and Mineral Technologists and Technicians*)

Land Surveyors (2154)

Mapping and Related Technologists and Technicians (2255)

Remarks

Land survey technicians may specialize in one of the following types of surveys: geodetic survey, topographic survey, legal (cadastral) survey or engineering survey.

Geomatics is an interdisciplinary field encompassing the collection, analysis and presentation of geographically referenced data.

2255.1 Cartographic Technologists and Technicians

Cartographic technologists and technicians prepare and revise maps and charts from photographs, manuscripts, survey notes and other maps.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	2	2	3	2	2	3

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

- cartographer
- cartographic technician
- cartographic technologist
- map editor
- mapping technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan map content, format and design
- **Numerical ability** to use mathematical and geometric procedures to calculate scaled dimensions
- **Spatial and form perception** to inspect final compositions to ensure completeness and accuracy
- **Motor co-ordination and finger dexterity** to manipulate and adjust drafting instruments and other technical equipment
- **Innovative interest** in designing and preparing maps and related graphs and charts from interpretation of geospatial data
- **Methodical interest** in **analyzing** information to compile required data from aerial photographs, surveys notes, records, reports and other maps
- **Objective interest** in **precision working** with digital mapping techniques, computer interactive graphics, computer assisted design and drafting (CAD) software, traditional drafting methods and computer and traditional scribing tools to generate maps, graphs and charts

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6, R

- Completion of secondary school is required.
- Technologists in this group require completion of a two- to three-year college program in cartography or geomatics.
- Technicians in this group require completion of a one- to two-year college program in cartography or geomatics.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Architectural firms
Armed forces
Computer software firms
Engineering firms
Forestry and other natural resources companies
Governments
Mapping firms
Scientific and other consulting firms and establishments
Utilities companies

Occupational Options

Mobility is possible among some occupations in this group.

Similar Occupations Classified Elsewhere

Airborne geophysical equipment operators (in 2212 *Geological and Mineral Technologists and Technicians*)

Drafting Technologists and Technicians (2253)

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geomatics engineers and surveying engineers (in 2131 *Civil Engineers*)

Land Surveyors (2154)

Land Survey Technologists and Technicians (2254)

Remarks

Geomatics is an interdisciplinary field encompassing the collection, analysis and presentation of geographically referenced data.

2255.2 Photogrammetric Technologists and Technicians

Photogrammetric technologists and technicians co-ordinate the preparation of topographical maps, charts and related material from aerial photographs and other data.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	2	2	3	4	4	4

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

photogrammetric technician
photogrammetric technologist
photogrammetrist
softcopy photogrammetrist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine and interpret aerial photographs and other data to prepare maps, mosaics and related charts
- **Numerical ability** to apply standard mathematical formulas to identify, scale and orient geodetic points, elevations and other planimetric and topographic features and cartographic detail
- **Spatial and form perception** to prepare topographic maps, aerial-photograph mosaics and related charts and tables
- **Innovative interest in analyzing** data and information from aerial photographs to provide three-dimensional optical models of terrain
- **Objective interest in precision working** with digitized stereoscopic plotting and computer graphics equipment to prepare topographic maps
- **Methodical interest** to trace maps and prepare charts and tables

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6, R

- Completion of secondary school is required.
- Technologists in this group require completion of a two- to three-year college program in photogrammetry or geomatics.
- Technicians in this group require completion of a one- to two-year college program in photogrammetry or geomatics.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Architectural firms
Armed forces
Computer software firms
Engineering firms
Forestry and other natural resources companies
Governments
Mapping firms
Scientific and other consulting firms and establishments
Utilities companies

Occupational Options

Mobility is possible among some occupations in this group.

Similar Occupations Classified Elsewhere

Airborne geophysical equipment operators (in 2212 *Geological and Mineral Technologists and Technicians*)

Drafting Technologists and Technicians (2253)

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geomatics engineers and surveying engineers (in 2131 *Civil Engineers*)

Land Surveyors (2154)

Land Survey Technologists and Technicians (2254)

Remarks

Geomatics is an interdisciplinary field encompassing the collection, analysis and presentation of geographically referenced data.

2255.3 Aerial Survey Technologists and Technicians

Aerial survey technologists and technicians operate remote sensing equipment and interpret aerial photographs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	3	3	3	3

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

aerial survey technician

aerial survey technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the operation of remote sensing equipment such as survey film and digital cameras, laser and radar sensors and scanners
- **Spatial and form perception** to interpret detail in recorded images of large areas of the earth, coastlines and atmosphere
- **Objective interest in precision working** with airborne remote sensing equipment such as survey film and digital cameras, laser and radar sensors and scanners; and in adjusting equipment as required
- **Methodical interest** in analyzing images to inspect quality, and to monitor the recording quality of equipment
- **Innovative interest** in producing images of large areas of the earth, coastlines and atmosphere for applications in natural resources, land use and scientific research

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6, R

- Completion of secondary school is required.
- Technologists in this group require completion of a two- to three-year college program in aerial survey or geomatics.
- Technicians in this group require completion of a one- to two-year college program in aerial survey or geomatics.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Architectural firms

Armed forces

Computer software firms

Engineering firms

Forestry and other natural resources companies

Governments

Mapping firms

Scientific and other consulting firms and establishments

Utilities companies

Occupational Options

Mobility is possible among some occupations in this group.

Similar Occupations Classified Elsewhere

Airborne geophysical equipment operators (in 2212 *Geological and Mineral Technologists and Technicians*)

Drafting Technologists and Technicians (2253)

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geomatics engineers and surveying engineers (in 2131 *Civil Engineers*)

Land Surveyors (2154)

Land Survey Technologists and Technicians (2254)

Remarks

Geomatics is an interdisciplinary field encompassing the collection, analysis and presentation of geographically referenced data.

2255.4 Remote Sensing Technologists and Technicians

Remote sensing technologists and technicians operate remote sensing interpretive equipment to gather geospatial information for applications in natural resources, land use and scientific research.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	2	2	3	3	3	3

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

remote sensing (RS) technician
remote sensing (RS) technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate airborne remote sensing equipment to acquire survey data for applications such as agriculture and forestry land use, heat loss assessments and industrial support services
- **Numerical ability** to interpret data and prepare graphic and alphanumeric reports
- **Spatial and form perception** to prepare flight plans and sensor configurations for airborne missions by selecting and interpreting maps
- **Objective interest in precision working** with analog and computer-based remote sensing interpretive equipment
- **Methodical interest** in verifying the integrity and accuracy of data contained in remote sensing image analysis systems
- **Innovative interest in analyzing** data to develop specialized analog and computer software to customize and integrate image analyses

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6, R

- Completion of secondary school is required.
- Technologists in this group require completion of a two- to three-year college program in remote sensing or geomatics.
- Technicians in this group require completion of a one- to two-year college program in remote sensing or geomatics.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Architectural firms

Armed forces

Computer software firms

Engineering firms

Forestry and other natural resources companies

Governments

Mapping firms

Scientific and other consulting firms and establishments

Utilities companies

Occupational Options

Mobility is possible among some occupations in this group.

Similar Occupations Classified Elsewhere

Airborne geophysical equipment operators (in 2212 *Geological and Mineral Technologists and Technicians*)

Drafting Technologists and Technicians (2253)

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geomatics engineers and surveying engineers (in 2131 *Civil Engineers*)

Land Surveyors (2154)

Land Survey Technologists and Technicians (2254)

Remarks

Geomatics is an interdisciplinary field encompassing the collection, analysis and presentation of geographically referenced data.

2255.5 Geographic Information Systems (GIS) Technologists and Technicians

Geographic information systems technologists and technicians operate computer-based systems to model and manage geospatial data and prepare geographic reports, maps and charts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	2	2	3	3	3	3

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, R

Examples of Job Titles

geographic information systems (GIS) technician

geographic information systems (GIS) technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the operations of specialized computer hardware and software and peripheral equipment to manage and display geospatial data
- **Numerical ability** to model, manage, analyze and display geospatial data
- **Spatial and form perception** to prepare maps and charts
- **Objective interest in precision working** with geographical information systems; and in integrating external software such as spreadsheets and statistical packages with GIS software
- **Innovative interest in analyzing** information to develop specialized computer software routines, Internet based GIS, database and business applications that customize geographic information; and in working with external organizations on data transfer and systems compatibility issues
- **Methodical interest in speaking** to train and provide technical support for GIS users; and in performing data entry and editing activities and maintenance operations following predetermined calibration procedures

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6, R

- Completion of secondary school is required.
- Technologists in this group require completion of a two- to three-year college program in geographic information systems or geomatics.
- Technicians in this group require completion of a one- to two-year college program in geographic information systems or geomatics.
- In Quebec, membership in the regulatory body is required to use the title of Professional Technologist.

Workplaces/Employers

Architectural firms
Armed forces
Computer software firms
Engineering firms
Forestry and other natural resources companies
Governments
Mapping firms
Scientific and other consulting firms and establishments
Utilities companies

Occupational Options

Mobility is possible among some occupations in this group.

Similar Occupations Classified Elsewhere

Airborne geophysical equipment operators (in 2212 *Geological and Mineral Technologists and Technicians*)

Drafting Technologists and Technicians (2253)

Engineering technologists and technicians who apply geotechnical and topographical information to land use and urban planning (in 2231 *Civil Engineering Technologists and Technicians*)

Geomatics engineers and surveying engineers (in 2131 *Civil Engineers*)

Land Surveyors (2154)

Land Survey Technologists and Technicians (2254)

Remarks

Geomatics is an interdisciplinary field encompassing the collection, analysis and presentation of geographically referenced data.

2261 Nondestructive Testers and Inspectors

Nondestructive testers and inspectors operate radiographic, ultrasonic, liquid penetrant, magnetic particle, eddy current and similar testing equipment to detect discontinuities in objects of various compositions and materials.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	4	3

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H5*

EDUCATION/TRAINING

4, 5, 6, +, R

Examples of Job Titles

acoustic emission technician
aircraft nondestructive inspection technician
eddy current technician
industrial radiographer
infrared thermographer
liquid penetrant inspector
magnetic particle inspector
NDT (non-destructive testing) maintenance technician
nondestructive inspector
nondestructive tester
pressure vessel tester
ultrasonic inspector
visual inspector – welding
weld inspector

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to establish techniques for examination of objects under inspection to ensure that they adhere to safety regulations
- **Numerical ability** to obtain precise readings and analyze data from radiographic, ultrasonic, liquid penetrant, magnetic particle, eddy current and similar testing equipment
- **Spatial and form perception** to interpret radiographs, cathode-ray tube (CRT) and digital readouts, conductivity meters and visual indicators
- **Motor co-ordination and manual dexterity** to operate testing equipment
- **Objective interest in precision working** to set up and calibrate nondestructive testing equipment, and to conduct tests to ensure quality and detect defects; may perform specialized inspections using acoustic emission, vibration analysis, infrared thermography and laser shearography testing methods
- **Innovative interest in analyzing** information to interpret radiographs, readouts, meters and visual indicators and to evaluate test results
- **Methodical interest in speaking** to organize and report test results; and in applying testing criteria according to specifications and standards; may instruct and supervise trainees

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H5* Radiation

Employment Requirements

Education/Training
4, 5, 6, +, R

- Completion of secondary school is required.
- Completion of two years of an approved post-secondary science or engineering program may be required.
- Additional classroom and on-the-job training is required for certification in nondestructive testing.
- Nondestructive testing certification by Natural Resources Canada is available in three levels and is usually required by employers.
- Industrial radiographers using a radioactive isotope must pass an examination to be recognized as a qualified operator by the Atomic Energy Control Board.
- Welding inspector certification by the Canadian Welding Bureau is available in three levels and may be required by employers.
- Boiler and pressure vessel, process pipeline and aboveground storage tank inspector certification is available from the American Petroleum Institute.

Workplaces/Employers

Private industrial-inspection establishments

Quality control, maintenance and safety departments of manufacturing, processing, transportation, energy and other companies

Similar Occupations Classified Elsewhere

Aircraft instrument and avionics inspectors (in 2244 *Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors*)

Engineering Inspectors and Regulatory Officers (2262)

Radiographic or ultrasonic equipment operating occupations in medical laboratories or hospitals (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Remarks

*Environmental Conditions

- For some occupations in this group, Hazards H5 (Radiation) may also apply.

2262.1 Motor Vehicle Defects Investigators

Motor vehicle defects inspectors examine automobiles and trucks to ensure that they conform to government and industry standards and regulations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	3	3	4	4	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

264

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

5+, 6, 7, R

Examples of Job Titles

engineering inspector
motor vehicle defects investigator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct motor vehicle and component defect-investigations, examinations, tests and defect-related accident investigations
- **Verbal ability** to recommend improvements in vehicle inspections, licensing procedures and safety standards
- **Spatial and form perception** to inspect motor vehicles and components
- **Methodical interest in analyzing** data from investigations, examinations and tests to ensure conformity to established government and industry standards and regulations
- **Innovative interest in operating – manipulating** vehicles to conduct investigations, examinations, tests and defect-related accident investigations
- **Directive interest in speaking** to provide expert advice and testimony on specific motor vehicle performance problems and defects

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Employment Requirements

Education/Training

5+, 6, 7, R

- University degree or college diploma in an appropriate engineering field
or
trade qualifications and extensive related work experience are required.
- Appropriate professional engineering or engineering technology certification and licences may be required.

Workplaces/Employers

Government agencies

Private sector companies

Similar Occupations Classified Elsewhere

Construction Inspectors (2264)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

2262.2 Railway Accident Investigation Officers

Railway accident investigation officers examine railway accidents to determine their causes and inspect railway property and equipment to ensure that they conform to standards and regulations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	3	3	4	4	4

INTERESTS

MI d

DATA PEOPLE THINGS (DPT)

264

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

5+, 6, 7, R

Examples of Job Titles

railway accident investigation officer
regulatory officer, engineering

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to collect and analyze data from train derailments, collisions and other accidents to determine causes
- **Spatial and form perception** to inspect and evaluate railway properties, structures, rolling stock, signals, track structures and train handling characteristics
- **Innovative interest in analyzing** data from derailments, collisions and other accidents to determine causes; and in inspecting and evaluating properties to asses compliance with operating standards
- **Methodical interest in operating** equipment to conduct investigations of railway property and equipment to ensure that they comply with established government and industry standards and regulations
- **Directive interest in speaking** to enforce adherence to government and industry standards and regulations

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
5+, 6, 7, R

- University degree or college diploma in an appropriate engineering field
or
trade qualifications and extensive related work experience are required.
- Appropriate professional engineering or engineering technology certification and licences may be required.

Workplaces/Employers

Government agencies
Private sector companies

Similar Occupations Classified Elsewhere

Construction Inspectors (2264)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

2262.3 Airworthiness Inspectors

Airworthiness inspectors examine aircraft and instruments, processes and equipment to ensure that they conform to government and industry standards and regulations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	3	3	4	4	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

264

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

airworthiness inspector

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect the activities of establishments and individuals holding, and applying for, air carrier operating certificates, and establishments engaged in aircraft maintenance, repair and modification
- **Spatial and form perception** to inspect aircraft for defects and wear
- **Methodical interest in analyzing** data from inspections to ensure that the activities of establishments and individuals conform to established government and industry standards and regulations
- **Innovative interest in operating** testing equipment for conducting aircraft inspections to assess compliance with regulations
- **Directive interest in speaking** with maintenance crew to advise on any deficiencies, and with flight crew to detain aircraft suspected of being unairworthy and unsafe

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
5+, 6+, 7+, R

- University degree or college diploma in an appropriate engineering field or trade qualifications
and
extensive related work experience are required.
- Airworthiness inspectors require an Aircraft Maintenance Engineer's (AME) licence which can be obtained by fulfilling the education and training requirements as stated above and passing Transport Canada AME examinations.
- Appropriate professional engineering or engineering technology certification and licences may be required.

Similar Occupations Classified Elsewhere

Aircraft instrument and avionics inspectors (in 2244 *Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors*)

Aircraft mechanics and maintenance engineers who maintain and inspect aircraft structures, mechanical, hydraulic or propulsion systems (in 7315 *Aircraft Mechanics and Aircraft Inspectors*)

Construction Inspectors (2264)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

Workplaces/Employers

Government agencies

Private sector companies

2262.4 Inspectors, Weights and Measures

Inspectors, weights and measures examine devices, such as scales, meters and industrial instruments and equipment, to ensure that they conform to government and industry standards and regulations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	3	3	3	4	4	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

264

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

5+, 6, 7, R

Examples of Job Titles

inspector, weights and measures

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct inspections and tests of mechanical and electronic weighing and measuring devices, industrial instruments and systems
- **Verbal ability** to prepare draft investigative reports and recommendations
- **Spatial and form perception** to detect signs of wear and defects
- **Methodical interest in operating** equipment to test mechanical and electronic weighing and measuring devices and systems to ensure they conform to established government and industry standards and regulations
- **Innovative interest in analyzing** data from inspections to assess compliance with standards
- **Directive interest in speaking** with management to recommend corrective and enforcement actions

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Employment Requirements

Education/Training

5+, 6, 7, R

- University degree or college diploma in an appropriate engineering field
or
trade qualifications and extensive related work experience are required.
- Appropriate professional engineering or engineering technology certification and licences may be required.

Workplaces/Employers

Government agencies

Private sector companies

Similar Occupations Classified Elsewhere

Construction Inspectors (2264)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

2263 Inspectors in Public and Environmental Health and Occupational Health and Safety

Inspectors in this group evaluate and monitor health and safety hazards and develop strategies to control risks in the workplace. They inspect restaurants, public facilities, industrial establishments, municipal water systems and other workplaces to ensure compliance with government regulations regarding sanitation, pollution control, the handling and storage of hazardous substances and workplace safety.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	3	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

267

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H1, H2, H5*

EDUCATION/TRAINING

4+, 6, 7, R

Examples of Job Titles

environmental health officer
hazardous waste inspector
health and safety officer
health standards inspector
occupational health and safety officer
pollution control inspector
public health inspector
restaurant inspector
rodent control inspector
supervisor, public health inspectors
water inspector

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to inspect sanitary conditions of restaurants, hotels, schools, hospitals and other public facilities and institutions, to inspect workplaces to ensure that equipment, materials and production processes do not present safety and health hazards to employees and the general public, and to measure physical, biological and chemical workplace hazards
- **Verbal ability** to conduct surveys and monitoring programs of the natural environment to identify sources of pollution
- **Spatial and form perception** to inspect workplaces, public facilities and establishments, and to conduct safety and environmental audits
- **Methodical interest in handling** materials to collect water samples and other materials for analyses; and to develop, implement and evaluate health and safety programs and strategies
- **Innovative interest in analyzing** data from investigations of health and safety related complaints, spills of hazardous chemicals, outbreaks of diseases and poisonings and from workplace accidents and illnesses
- **Directive interest in speaking** with employers, employees and the general public to deliver training and advise on public health, environmental protection and workplace safety issues; and in initiating enforcement procedures to fine or to close establishments that contravene municipal, provincial and federal regulations

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1 Dangerous chemical substances
H2 Biological agents
H5* Radiation

Employment Requirements

Education/Training
4+, 6, 7, R

- A bachelor's degree or college diploma in a discipline such as food science, environmental studies, chemistry or health and safety is usually required.
- In some establishments, several years of related work experience and the completion of in-house training courses may substitute for formal education.
- Public health inspectors employed outside Quebec require certification with the Canadian Institute of Public Health Inspectors.
- Occupational health and safety officers may require certification with the Association for Canadian Registered Safety Professionals.

Workplaces/Employers

Establishments throughout the private and public sectors

Similar Occupations Classified Elsewhere

By-law Enforcement and Other Regulatory Officers, n.e.c. (6463)

Construction Inspectors (2264)

Engineering Inspectors and Regulatory Officers (2262)

Occupational hygienists and ergonomists (in 4161 *Natural and Applied Science Policy Researchers, Consultants and Program Officers*)

Remarks

*Environmental Conditions

- For some occupations in this group, Hazards H5 (Radiation) may also apply.

2264 Construction Inspectors

Construction inspectors inspect the construction and maintenance of new and existing buildings, bridges, highways and industrial establishments to ensure that specifications and building codes are observed and to monitor work-site safety.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	4	4	4	4

INTERESTS

MI d

DATA PEOPLE THINGS (DPT)

267

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	1	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, L3, H8

EDUCATION/TRAINING

5+, 6+, R

Examples of Job Titles

bridge inspector
building construction inspector
construction inspector
highway construction inspector
home inspector
housing construction inspector
mine inspector, construction
plumbing inspector
pre-stressed concrete inspector
safety officer – construction

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine plans, drawings and site layouts for new buildings, building renovations and other proposed structures
- **Verbal ability** to prepare reports for engineers and project managers
- **Spatial and form perception** to inspect construction of buildings, bridges, dams, highways and other types of construction to ensure that they conform to drawings, specifications, building codes and other applicable ordinances, and to inspect construction of sewer systems and pipelines
- **Methodical interest in handling** equipment and materials to inspect steel framework, concrete forms, reinforcing steel mesh and rods, concrete and pre-stressed concrete to ensure quality standards; and in inspecting construction sites to ensure safe working conditions are maintained
- **Innovative interest in analyzing** data from inspection of sites to verify that they conform to specifications and building codes, and from inspections and tests of electrical and plumbing installations to ensure that they comply with municipal, provincial and federal regulations
- **Directive interest in speaking** with purchasers to inspect, assess and provide reports on new and resale homes; and in inspecting existing buildings to identify and report on structural defects, fire hazards and other threats to safety

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Hazards
H8 Dangerous locations

Employment Requirements

Education/Training
5+, 6+, R

- Completion of secondary school is required.
- College diploma in construction, civil engineering or architectural technology plus several years of related work experience
or
several years of experience as a qualified tradesperson in a construction trade, such as plumbing, carpentry or electrical, is required.
- Provincial certification in a skilled trade or as an engineering technologist is usually required.

Workplaces/Employers

Architectural consulting firms
Civil engineering consulting firms
Construction companies
Federal government
Municipal governments
Provincial governments
Self-employment

Occupational Options

Progression to construction management positions is possible with experience.

Similar Occupations Classified Elsewhere

By-law Enforcement and Other Regulatory Officers, n.e.c. (6463)

Construction Estimators (2234)

Construction Managers (0711)

Engineering Inspectors and Regulatory Officers (2262)

Inspectors in Public and Environmental Health and Occupational Health and Safety (2263)

2271.1 Pilots

Pilots fly fixed-wing aircraft and helicopters to provide air transportation and other services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	1	2	3	2	3	3

INTERESTS

OID

DATA PEOPLE THINGS (DPT)

263

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	3	1	2	1

ENVIRONMENTAL CONDITIONS (EC)

L4, H8, D1

EDUCATION/TRAINING

5, 6, 7, R

Examples of Job Titles

air pilot
captain – air transport
check pilot
chief pilot
helicopter pilot
military pilot
pilot, airline
test pilot

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to fly fixed-wing aircraft and helicopters to transport passengers and freight
- **Verbal ability** to understand and use technical terms found in manuals, charts and weather reports and to communicate with other personnel
- **Numerical ability** to maintain flight logs and complete trip reports
- **Spatial perception** to visualize speed and distance in relation to precise take-off and landing limits and procedures and, when airborne, to visualize relationship of own aircraft to other aircraft
- **Form perception** to note differences in gauge readings and indicator positions
- **Motor co-ordination** to pilot aircraft during take-off, in flight and when landing
- **Objective interest in driving – operating** fixed-wing aircraft and helicopters to provide services such as search-and-rescue operations, aerial surveying and spraying and crop dusting
- **Innovative interest in analyzing** information to test new aircraft to evaluate performance
- **Directive interest in speaking** with crews to direct their activities during flights as captain or co-pilot and in performing captain's duties as first officer, if required; in training other pilots on new equipment, and in preparing them for examinations to validate and upgrade existing licences

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L4 In a vehicle or cab

Hazards

- H8 Dangerous locations

Discomforts

- D1 Noise

Employment Requirements

Education/Training

5, 6, 7, R

- Completion of secondary school and graduation from a certified flying or aviation school are required.
- A commercial pilot's licence or an air transport pilot's licence is required.
- Additional licences or endorsements to fly different types of aircraft are required.
- A university degree or college diploma may be required.
- Structured training is provided by employers.

Workplaces/Employers

Airline and air freight companies

Armed forces

Flying schools

Private and public sector aircraft operators

Similar Occupations Classified Elsewhere

Air Traffic Control and Related Occupations (2272)

Ground school instructors (in 4131 *College and Other Vocational Instructors*)

2271.2 Flight Engineers (Second Officers)

Flight engineers (second officers) monitor aircraft during flights and may assist in flying aircraft.

Profile Summary									Examples of Job Titles		
APTITUDES									co-pilot flight engineer second officer		
G	V	N	S	P	Q	K	F	M			
2	2	2	1	2	3	2	3	3			
INTERESTS											
OMI											
DATA PEOPLE THINGS (DPT)											
273											
PHYSICAL ACTIVITIES (PA)											
V	C	H	B	L	S						
4	1	3	1	2	1						
ENVIRONMENTAL CONDITIONS (EC)											
L4, H8, D1											
EDUCATION/TRAINING											
5, 6, 7, R											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to monitor operation of aircraft engines and fuel consumption and other systems during flights
- **Verbal ability** to understand and use technical terms in manuals, charts and weather reports and to communicate with personnel
- **Numerical ability** to compute flight factors such as geographical positions, effects of weather and remaining fuel
- **Spatial perception** to visualize speed and distance in relation to precise take-off and landing limits and procedures and, when airborne, to visualize relationship of own aircraft to other aircraft
- **Form perception** to note differences in gauge readings and indicator positions
- **Motor co-ordination** to perform specified checks on aircraft and equipment on board
- **Objective interest in driving – operating** aircraft and helicopters in support of pilots and first officers
- **Methodical interest in assisting** captains and first officers when acting as second officer during flights
- **Innovative interest in analyzing** information to monitor the functioning of aircraft electrical, hydraulic, pressurization, heating and air conditioning systems

Physical Activities

Vision
4 Total visual field

Colour Discrimination
1 Relevant

Hearing
3 Other sound discrimination

Body Position
1 Sitting

Limb Co-ordination
2 Multiple limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L4 In a vehicle or cab

Hazards
H8 Dangerous locations

Discomforts
D1 Noise

Employment Requirements

Education/Training
5, 6, 7, R

- Completion of secondary school and graduation from a certified flying or aviation school are required.
- A commercial pilot's licence or an air transport pilot's licence is required.
- Additional licences or endorsements to fly different types of aircraft are required.
- A university degree or college diploma may be required.
- Structured training is provided by employers.

Workplaces/Employers

Airline and air freight companies
Armed forces
Flying schools
Private and public sector aircraft operators

Similar Occupations Classified Elsewhere

Air Traffic Control and Related Occupations (2272)

Ground school instructors (in 4131 *College and Other Vocational Instructors*)

2271.3 Flying Instructors

Flight instructors teach flying techniques and procedures to students and licensed pilots.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	1	2	3	2	3	3

INTERESTS

OMD

DATA PEOPLE THINGS (DPT)

223

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	3	1	2	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L4, H8, D1

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

chief flying instructor

flying instructor

pilot instructor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to instruct student pilots in procedures and techniques of flying aircraft and in ground-school subjects such as navigation, radio procedures and flying regulations
- **Verbal ability** to conduct training and communicate technical concepts, procedures and regulations to students
- **Numerical ability** to compute flight factors such as geographical positions, effects of weather and remaining fuel
- **Spatial perception** to visualize speed and distance in relation to precise take-off and landing limits and procedures and, when airborne, to visualize relationship of own aircraft to other aircraft
- **Form perception** to note differences in gauge readings and indicator positions
- **Motor co-ordination** to perform duties of airline pilots
- **Objective interest in driving – operating** aircraft; and in flying scheduled flights when required
- **Methodical interest in analyzing** information when accompanying pilots on flights to note compliance with, and infringements of, flying regulations and to prepare reports on findings
- **Directive interest in instructing** pilots in flying regulations and navigation and in training licensed pilots for additional certification

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L4 In a vehicle or cab

Hazards

- H8 Dangerous locations

Discomforts

- D1 Noise

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Completion of secondary school and graduation from a certified flying or aviation school are required.
- A commercial pilot's licence or an air transport pilot's licence is required.
- Transport Canada ratings and endorsements to provide instruction on different types of aircraft are required.
- A university degree or college diploma may be required.

Workplaces/Employers

Airline and air freight companies

Armed forces

Flying schools

Private and public sector aircraft operators

Similar Occupations Classified Elsewhere

Air Traffic Control and Related Occupations (2272)

Ground school instructors (in 4131 *College and Other Vocational Instructors*)

2272.1 Air Traffic Controllers

Air traffic controllers direct air traffic within assigned airspace, and control moving aircraft and service vehicles at airports.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	2	3	3	4	4	4
INTERESTS								
OMD								
DATA PEOPLE THINGS (DPT)								
162								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
4	1	3	1	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
5, R								

Examples of Job Titles

- air traffic controller (ATC)
- airport air traffic controller
- enroute air traffic controller
- terminal air traffic controller

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to control flow of air traffic within assigned airspace
- **Verbal ability** to relay meteorological, navigational and other information to pilots in flight, to alert airport emergency services when aircraft are experiencing difficulties and to report missing aircraft to search-and-rescue services
- **Numerical ability** to calculate course, speed, distance, fuel and endurance problems, changes in arrival and departure times, and allowable take-off and landing weights
- **Spatial perception** to visualize constantly changing air-traffic situations
- **Form perception** to co-ordinate movements of planes and to use instruments such as radar monitors and other visual references
- **Clerical perception** to receive and log radio messages, to keep records and to detect errors in schedules and tabulations
- **Objective interest in controlling** flow of air traffic using radar monitors, radios and other communication equipment and visual references
- **Methodical interest in co-ordinating** information to maintain radio and telephone contact with control towers, terminal control units and other area control centers
- **Directive interest in speaking** with pilots to issue take-off and landing instructions; and in directing activities of all moving aircraft and service vehicles on and near airport runways

Physical Activities

Vision
4 Total visual field

Colour Discrimination
1 Relevant

Hearing
3 Other sound discrimination

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5, R

- Completion of secondary school is required.
- A basic radio-telephone operator's licence is required.
- Air traffic controllers require completion of a NAV Canada training program that includes structured in-class and on-the-job training.
- Air traffic controllers require an air traffic controller's licence.

Workplaces/Employers

Armed forces
NAV Canada

Occupational Options

Air traffic controllers with experience and appropriate NAV Canada endorsements may move to units with higher volumes of air traffic.

Similar Occupations Classified Elsewhere

Railway Traffic Controllers and Marine Traffic Regulators (2275)

2272.2 Flight Dispatchers

Flight dispatchers authorize airline flights over assigned routes.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

OId

DATA PEOPLE THINGS (DPT)

168

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, R

Examples of Job Titles

flight dispatcher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to analyze environmental conditions and assess aircraft for factors such as load and fuel capacities to determine flight routes
- **Verbal ability** to communicate with aircraft personnel during flights while monitoring flight progress
- **Numerical ability** to calculate flight data such as times of arrival and departure, fuel requirements and allowable take-off and landing weights
- **Spatial and form perception** to monitor flights and use navigational aids to provide pilots with essential information
- **Clerical perception** to prepare and maintain flight plans, flight logs and other reports
- **Objective interest** in monitoring flights and communicating with aircraft personnel during flights
- **Innovative interest** in **speaking** with flight crews before take-off on weather conditions, status of navigational facilities and airports en route
- **Directive interest** in **co-ordinating** information to delay or cancel flights; and in co-signing flight authorizations with aircraft captains

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 4, 5, R

- Completion of secondary school is required.
- A basic radio-telephone operator's licence is required.
- Flight dispatchers may require experience in air traffic control or flight operations and may require a private pilot's licence.

Workplaces/Employers

Airline and air services companies

Armed forces

Similar Occupations Classified Elsewhere

Railway Traffic Controllers and Marine Traffic Regulators (2275)

2272.3 Flight Service Specialists

Flight service specialists provide pilots with flight information essential to aviation safety.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	2	4	4	4

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

163

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, R

Examples of Job Titles

flight service specialist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide pre-flight information concerning weather, radio frequencies, terrain, airports and related data to assist pilots in preparation of flight plans, and to observe, record and report weather conditions at airports
- **Verbal and numerical ability** to understand technical terms and data when forwarding flight plans to air traffic services facilities, alert airport emergency services of aircraft experiencing difficulties and initiate communication searches when aircraft become overdue
- **Clerical perception** to check flight plans for completeness and accuracy
- **Objective interest in operating** radio equipment to support air traffic control operations by relaying radio requests for flight clearances, arrival and departure information and position reports
- **Innovative interest in speaking** with pilots and preparing for takeoffs and landings
- **Methodical interest in co-ordinating** information to describe weather conditions, wind speed and direction and presence of local air traffic

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

5, R

- A basic radio-telephone operator's licence is required.
- Flight service specialists require completion of a NAV Canada training program that includes structured in-class and on-the-job training.

Workplaces/Employers

Armed forces

NAV Canada

Similar Occupations Classified Elsewhere

Railway Traffic Controllers and Marine Traffic Regulators (2275)

2273 Deck Officers, Water Transport

Deck officers, water transport, operate ships and self-propelled vessels to transport passengers and cargo on oceans and coastal and inland waters, and supervise and co-ordinate the activities of deck crews. This group also includes Canadian Coast Guard deck officers.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	2	2	3	3	4	3

INTERESTS

OID

DATA PEOPLE THINGS (DPT)

133

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	3	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L4, H8

EDUCATION/TRAINING

4, 5, R

Examples of Job Titles

deck officer
ferryboat master
first mate, ship
maritime surface and subsurface officer – military
master mariner
navigation officer, Coast Guard vessel
second mate, ship
ship pilot
ship's captain
ship's mate
third mate, ship
tugboat captain
watchkeeping officer, Coast Guard vessel

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to command and operate ships and other self-propelled vessels such as barges and oil rigs to transport passengers and cargo
- **Verbal ability** to command ships and record progress, crew activities and sea conditions in ships' logs
- **Spatial perception** to determine geographical positions using navigational instruments, maps and charts
- **Form perception** to guide vessels in rivers, canals and other confined or hazardous waterways
- **Objective interest in operating** Coast Guard vessels to provide ice-breaking services and search-and-rescue services; and in using and maintaining vessels' navigational instruments and equipment
- **Innovative interest in co-ordinating** activities of deck crews; and in planning and executing safe navigational passage; and in boarding vessels at berth or from pilot boat to advise ships' captains on the course to steer for safe passage into and out of port, seaway or other waterway under pilotage authority
- **Directive interest in supervising** deck crews; in maintaining control over ships operating in Canadian waters, and in overseeing loading and unloading of cargo

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light
-

Environmental Conditions

Location

- L4 In a vehicle or cab

Hazards

- H8 Dangerous locations
-

Employment Requirements

Education/Training

4, 5, R

- Completion of secondary school is required.
 - Completion of deck officer cadet program from an approved nautical institute
or
one to three years of experience as a member of a deck crew are required.
 - Deck officer certificate of competency, issued by Transport Canada, is required.
 - For ship pilots, a ship pilot licence and a master certificate of competency are required.
-

Workplaces/Employers

Federal government departments, including the armed forces

Ferries and tour boat companies

Marine transportation companies

Occupational Options

Transport Canada administers a deck officer certification program, consisting of several levels. Progression from one level of certification to the next requires additional experience, training and testing.

Mobility among employers is possible for positions requiring the same level of certification.

Progression to management positions in transportation is possible with experience.

Similar Occupations Classified Elsewhere

Deck Crew, Water Transport (7433)

Engineer Officers, Water Transport (2274)

Engine Room Crew, Water Transport (7434)

Fishing Masters and Officers (8261)

Shore captains (in 0713 Transportation Managers)

2274 Engineer Officers, Water Transport

Engineer officers, water transport, operate and maintain main engines, machinery and auxiliary equipment aboard ships and other self-propelled vessels, and supervise and co-ordinate the activities of engine room crews.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	3	4	3	4	3

INTERESTS

OID

DATA PEOPLE THINGS (DPT)

233

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	4	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L4, H3, H8, D1

EDUCATION/TRAINING

4+, 5, R

Examples of Job Titles

chief engineer – water transport
engineer officer – water transport
fourth engineer
marine engineer officer
marine engineer officer – military
second engineer
third engineer
tugboat engineer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate main engines, machinery and all auxiliary equipment aboard ships such as boilers, steering and deck machinery, motors, pumps, generators and condensers
- **Verbal and numerical ability** to maintain records and prepare reports on fuel consumption, engine performance and equipment failures
- **Spatial perception** to visualize complete operations of marine power plants
- **Form perception** to inspect engines and other equipment to determine malfunctions
- **Motor co-ordination and manual dexterity** to adjust valves to control temperatures, pressure, flow of liquids and speed of pumps
- **Objective interest** in **operating** main engines, standing engine room watch and monitoring performance of engines, machinery and auxiliary equipment; and in conducting maintenance and emergency repairs
- **Innovative interest** in **analyzing** information to inspect engines, machinery and auxiliary equipment
- **Directive interest** in **supervising** and co-ordinating activities of engine room crews

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate
- L4 In a vehicle or cab

Hazards

- H3 Equipment, machinery, tools
- H8 Dangerous locations

Discomforts

- D1 Noise

Employment Requirements

Education/Training

4+, 5, R

- Completion of secondary school is required.
- Completion of a three-year cadet program in marine engineering from an approved marine training institute *or* approximately three years of experience as an engine room crew member and six months of formal training at an approved marine training institute *or* approximately three years of experience as an engine mechanic and six months of experience as an engine room crew member are required for certification as a fourth class marine engineer.
- A marine engineer officer certificate of competency, issued by Transport Canada, is required.

Workplaces/Employers

Federal government departments, including the armed forces

Marine transportation companies

Tour boat companies

Occupational Options

Fourth Class Marine Engineer certificate is the entry level of a four-level certification program administered by Transport Canada. Progression from one level of certification to the next requires additional experience, training and testing.

Mobility among employers is possible for positions requiring the same level of certification.

Progression to management positions in transportation is possible with experience.

Similar Occupations Classified Elsewhere

Deck Crew, Water Transport (7433)

Deck Officers, Water Transport (2273)

Engine Room Crew, Water Transport (7434)

Marine and naval engineers (in 2148 *Other Professional Engineers, n.e.c.*)

Marine mechanical engineers (in 2132 *Mechanical Engineers*)

Transportation Managers (0713)

2275.1 Railway Traffic Controllers

Railway traffic controllers co-ordinate passenger and freight train traffic on railways.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	4	3	4	4	4

INTERESTS

MOD

DATA PEOPLE THINGS (DPT)

162

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, R

Examples of Job Titles

chief rail traffic controller
rail traffic controller

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate and monitor centralized traffic control (CTC) systems to co-ordinate railway traffic
- **Verbal ability** to read and understand technical manuals and traffic and company regulations, and to interpret panel displays
- **Numerical ability** to calculate train arrival and departure times
- **Spatial and form perception** to chart train movements and monitor CTC boards and systems
- **Clerical perception** to record rail traffic information
- **Methodical interest** in **co-ordinating** information to follow railway traffic; and in receiving, recording and relaying train instructions to train crews
- **Objective interest** in **controlling** the movements of passenger and freight trains and on-track mobile maintenance equipment
- **Directive interest** in **speaking – signalling** to issue train instructions to operating crews and other personnel; may supervise and train other railway traffic controllers

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4+, R

- Railway traffic controllers usually require completion of secondary school and several years of experience in the railway industry.
- Up to 35 weeks of classroom and on-the-job training is provided to railway traffic controllers.
- Railway traffic controllers require a Canadian Rail Operating Rules certificate.

Workplaces/Employers

Rail transport companies

Occupational Options

With experience, railway traffic controllers may progress to supervisory positions in rail transport operations.

There is little mobility between traffic controlling occupations in the railway and marine sectors.

Similar Occupations Classified Elsewhere

Harbour masters (in 0721 *Facility Operation and Maintenance Managers*)

Subway traffic controllers and light rail transit dispatchers (in 7222 *Supervisors, Motor Transport and Other Ground Transit Operators*)

Supervisors, Railway Transport Operations (7221)

2275.2 Marine Traffic Regulators

Marine traffic regulators monitor and regulate coastal and inland marine traffic in assigned waterways.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	3	4	4	4

INTERESTS

OMD

DATA PEOPLE THINGS (DPT)

164

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	3	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4

Examples of Job Titles

marine traffic regulator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to monitor and regulate coastal and inland marine traffic in assigned waterways
- **Verbal ability** to report accidents, distress signals, navigational hazards and other emergencies to authorities
- **Spatial and form perception** to obtain positions, courses, speeds and estimated arrival times of vessels, and to monitor vessels through traffic zones
- **Objective interest in operating** radar and closed circuit monitors, remote radio systems and other telecommunication equipment to monitor vessel movements and communicate with vessels
- **Methodical interest in co-ordinating** information to maintain logs of vessel movements, sizes and structures; and in maintaining radio and telephone contact with adjacent marine control sectors and with vessels within areas of jurisdiction
- **Directive interest in speaking** with personnel of vessels to issue clearance instructions and to advise on traffic volumes and weather conditions, and in relaying information to other marine traffic control sectors; and in directing vessel movements

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

3 Other sound discrimination

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4

- Marine traffic regulators require completion of secondary school and several months of formal traffic regulator training.

Workplaces/Employers

Canadian Coast Guard
Canal and lock authorities
Harbours
Ports

Occupational Options

There is little mobility between traffic controlling occupations in the railway and marine sectors.

Similar Occupations Classified Elsewhere

Harbour masters (in 0721 *Facility Operation and Maintenance Managers*)

Subway traffic controllers and light rail transit dispatchers (in 7222 *Supervisors, Motor Transport and Other Ground Transit Operators*)

Supervisors, Railway Transport Operations (7221)

2281.1 Computer and Network Operators

Computer and network operators establish, operate, maintain, and co-ordinate the use of local and wide area networks (LANs and WANs), mainframe networks, hardware, software and related computer equipment. Supervisors of computer and network operators and web technicians are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	3	3	3	3	3	3

INTERESTS

OMd

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

computer operator
computer operators supervisor
data centre operator
LAN (local area network) administrator
LAN (local area network) technician
network administrator
network operator
network support technician
system administrator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to maintain, troubleshoot and administer the use of local area networks (LANs), wide area networks (WANs), mainframe networks, computer workstations and peripherals
- **Numerical ability** to modify hardware and software settings and to understand machine logic
- **Spatial and form perception** to resolve operational problems and to monitor the operations of delivery platforms and infrastructure
- **Clerical perception** to maintain control records, and to perform required monitoring, logging and reporting tasks
- **Motor co-ordination and finger and manual dexterity** to maintain, repair, test and install networking equipment and to splice, join and connect network cables
- **Objective interest in precision working** to monitor the performance of computer systems and networks, to co-ordinate access and use of computer networks and to install computer hardware, networking software and operating system software
- **Methodical interest in compiling** information to implement data, software and hardware security procedures; in performing routine network start up and shutdown, and in performing data backup and disaster recovery operations
- **Directive interest in assisting** to provide problem-solving services to network users

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 5, 6, R

- Completion of a college or other program in computer science, network administration, Web technology or in a related field is usually required.
- Certification or training provided by software vendors may be required by some employers.

Workplaces/Employers

Information technology units throughout the private and public sectors

Occupational Options

Progression to computer programming, interactive media development, Web development or systems analysis is possible with experience.

Similar Occupations Classified Elsewhere

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Sales, Marketing and Advertising Managers (0611)

Systems Testing Technicians (2283)

Technical Support Analysts (2282)

Web Designers and Developers (2175)

2281.2 Web Technicians

Web technicians set up and maintain Internet, extranet and intranet Web sites and Web server hardware and software, and monitor and optimize network connectivity and performance. Supervisors of web technicians are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	2	3	3	3	3	3	3

INTERESTS

Omi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

internet web site technician

web technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to set up and maintain Internet, extranet and intranet Web sites and Web server hardware and software, and to monitor and optimize network connectivity and performance
- **Numerical ability** to modify Web pages, applets and scripts and to understand machine logic
- **Spatial and form perception** to set up and maintain local area networks and connections to the Internet
- **Clerical ability** to perform required monitoring, logging and reporting of network usage, connectivity and performance
- **Motor co-ordination and finger and manual dexterity** to install, maintain, troubleshoot and upgrade Web server hardware and software
- **Objective interest in precision working** with Web sites and Web server hardware and software; in implementing network traffic and security monitoring software; and in optimizing server performance
- **Methodical interest in compiling** information to research and apply meta-data to Web sites; in registering Web sites with search engines; and in performing Web server backup and recovery operations
- **Innovative interest in assisting** to respond to requests for help and information from Web site visitors and Web site designers

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5, 6, R

- Completion of a college or other program in computer science, network administration, Web technology or in a related field is usually required.
- Certification or training provided by software vendors may be required by some employers.

Workplaces/Employers

Information technology units throughout the private and public sectors

Occupational Options

Progression to computer programming, interactive media development, Web development or systems analysis is possible with experience.

Similar Occupations Classified Elsewhere

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Sales, Marketing and Advertising Managers (0611)

Systems Testing Technicians (2283)

Technical Support Analysts (2282)

Web Designers and Developers (2175)

2282 User Support Technicians

Technicians in this group provide first-line technical support to computer users experiencing difficulties with computer hardware and with computer applications and communications software.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

MSo

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

call centre agent – technical support
client support representative – systems
computer help desk representative – systems
computer help desk supervisor
hardware installation technician
hardware technical support analyst
help desk technician
software installation technician
software technical support analyst
systems support representative
technical support analyst – systems
technical support supervisor
user support technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the functioning of computer hardware and software and to provide technical support to computer users experiencing hardware and software difficulties
- **Verbal ability** to communicate electronically and in person with computer users experiencing technical difficulties, and to determine and document problems
- **Social interest in assisting** computer users by assessing and responding to their technical difficulties; may supervise other technical support workers
- **Numerical ability and spatial and form perception** to understand, investigate and resolve hardware and software problems
- **Objective interest in precision working** to provide first-line technical support and advice to computer users
- **Methodical interest in compiling** information from user guides, technical manuals and other documents to research and implement solutions; and in collecting, organizing and maintaining problems and solution logs for use by other technical support analysts

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, R

- Completion of a college program in computer science, computer programming or network administration is usually required.
- College or other courses in computer programming or network administration are usually required.
- Certification or training provided by software vendors may be required by some employers.

Workplaces/Employers

Call centres

Computer hardware manufacturers and retailers

Information technology units throughout the private and public sectors

Software development companies

Occupational Options

Progression to computer programming, interactive media development, Web development or systems analysis is possible with experience.

Similar Occupations Classified Elsewhere

Computer and Network Operators and Web Technicians (2281)

Computer Programmers and Interactive Media Developers (2174)

Information Systems Analysts and Consultants (2171)

Systems Testing Technicians (2283)

Technical support specialists (in 6221 *Technical Sales Specialists – Wholesale Trade*)

2283 Systems Testing Technicians

Systems testing technicians execute test plans to evaluate the performance of software applications and information and telecommunications systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

MOi

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

application tester
application testing technician
software test co-ordinator
software tester
systems tester
systems testing technician
user acceptance tester

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to execute test plans to evaluate the performance of software applications and information and telecommunications systems
- **Verbal ability** to communicate technical information to other staff, and to ensure software documentation is clear and accurate
- **Numerical ability** to understand and use computer programming languages to develop automated testing scripts
- **Spatial and form perception** to design test environments and data sets to assess system delivery
- **Methodical interest in copying** information to execute and document results of software application tests and information and telecommunication systems tests
- **Objective interest in operating** computers to conduct tests to certify that new and modified systems meet standards; and to install software and hardware and configure operating system software in preparation for testing
- **Innovative interest** in developing and implementing software and information system testing policies and procedures; and in developing and documenting software testing plans

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, R

- Completion of a college program in computer science, computer programming or network administration is usually required.
- College or other courses in computer programming or network administration are usually required.
- Certification or training provided by software vendors may be required by some employers.

Workplaces/Employers

Information technology research and development firms

Information technology units throughout the private and public sectors

Software and telecommunications development companies

Occupational Options

Progression to computer programming, interactive media development, Web development or systems analysis is possible with experience.

Similar Occupations Classified Elsewhere

Computer and Network Operators and Web Technicians (2281)

Computer Engineers (Except Software Engineers) (2147)

Computer Programmers and Interactive Media Developers (2174)

Information Systems Analysts and Consultants (2171)

Software Engineers (2173)

User Support Technicians (2282)

Web Designers and Developers (2175)

Health Occupations



Health Occupations

MAJOR GROUP 31 PROFESSIONAL OCCUPATIONS IN HEALTH

311 Physicians, Dentists and Veterinarians

- 3111 Specialist Physicians
 - 3111.1 Specialists in Clinical Medicine
 - 3111.2 Specialists in Laboratory Medicine
 - 3111.3 Specialists in Surgery
- 3112 General Practitioners and Family Physicians
- 3113 Dentists
- 3114 Veterinarians

312 Optometrists, Chiropractors and Other Health Diagnosing and Treating Professionals

- 3121 Optometrists
- 3122 Chiropractors
- 3123 Other Professional Occupations in Health Diagnosing and Treating
 - 3123.1 Doctors of Podiatric Medicine
 - 3123.2 Chiropodists and Podiatrists
 - 3123.3 Naturopaths
 - 3123.4 Orthoptists
 - 3123.5 Osteopaths

313 Pharmacists, Dietitians and Nutritionists

- 3131 Pharmacists
 - 3131.1 Community Pharmacists and Hospital Pharmacists
 - 3131.2 Industrial Pharmacists
- 3132 Dietitians and Nutritionists

314 Therapy and Assessment Professionals

- 3141 Audiologists and Speech-Language Pathologists
 - 3141.1 Audiologists
 - 3141.2 Speech-Language Pathologists
- 3142 Physiotherapists
- 3143 Occupational Therapists
- 3144 Other Professional Occupations in Therapy and Assessment

315 Nurse Supervisors and Registered Nurses

- 3151 Head Nurses and Supervisors

- 3152 Registered Nurses
 - 3152.1 General Duty Registered Nurses
 - 3152.2 Occupational Health Nurses
 - 3152.3 Community Health Nurses
 - 3152.4 Psychiatric Nurses
 - 3152.5 Nursing Consultants
 - 3152.6 Nursing Researchers
 - 3152.7 Clinical Nurses

MAJOR GROUP 32
TECHNICAL AND SKILLED OCCUPATIONS IN HEALTH

321 Medical Technologists and Technicians (Except Dental Health)

- 3211 Medical Laboratory Technologists and Pathologists' Assistants
 - 3211.1 Medical Laboratory Technologists
 - 3211.2 Pathologists' Assistants
- 3212 Medical Laboratory Technicians
- 3213 Veterinary and Animal Health Technologists and Technicians
- 3214 Respiratory Therapists, Clinical Perfusionists and Cardio-Pulmonary Technologists
 - 3214.1 Respiratory Therapists
 - 3214.2 Clinical Perfusionists
 - 3214.3 Cardiopulmonary Technologists
- 3215 Medical Radiation Technologists
 - 3215.1 Radiological Technologists
 - 3215.2 Nuclear Medicine Technologists
 - 3215.3 Radiation Therapists
- 3216 Medical Sonographers
- 3217 Cardiology Technologists
- 3218 Electroencephalographic and Other Diagnostic Technologists, n.e.c.
 - 3218.1 Electroencephalographic (EEG) Technologists
 - 3218.2 Electromyography (EMG) Technologists
- 3219 Other Medical Technologists and Technicians (Except Dental Health)
 - 3219.1 Dietary Technicians
 - 3219.2 Ocularists
 - 3219.3 Prosthetists and Orthotists
 - 3219.4 Prosthetic and Orthotic Technicians

322 Technical Occupations in Dental Health Care

- 3221 Denturists
- 3222 Dental Hygienists and Dental Therapists
 - 3222.1 Dental Hygienists
 - 3222.2 Dental Therapists

- 3223 Dental Technologists, Technicians and Laboratory Bench Workers
 - 3223.1 Dental Technologists and Technicians
 - 3223.2 Dental Laboratory Bench Workers
- 323 Other Technical Occupations in Health Care (Except Dental)**
- 3231 Opticians
- 3232 Midwives and Practitioners of Natural Healing
 - 3232.1 Midwives
 - 3232.2 Acupuncturists
 - 3232.3 Chinese Medical Practitioners
 - 3232.4 Herbalists
 - 3232.5 Homeopaths
 - 3232.6 Reflexologists
 - 3232.7 Rolfers
- 3233 Licensed Practical Nurses
 - 3233.1 Licensed Practical Nurses
 - 3233.2 Operating Room Technicians
- 3234 Ambulance Attendants and Other Paramedical Occupations
- 3235 Other Technical Occupations in Therapy and Assessment
 - 3235.1 Audio Prosthetists
 - 3235.2 Audiometric Assistants
 - 3235.3 Communication Assistants
 - 3235.4 Massage Therapists
 - 3235.5 Ophthalmic Medical Assistants
 - 3235.6 Physical Rehabilitation Technicians

MAJOR GROUP 34

ASSISTING OCCUPATIONS IN SUPPORT OF HEALTH SERVICES

- 341 Assisting Occupations in Support of Health Services**
- 3411 Dental Assistants
- 3413 Nurse Aides, Orderlies and Patient Service Associates
- 3414 Other Assisting Occupations in Support of Health Services
 - 3414.1 Orthopedic Technologists
 - 3414.2 Therapy Assistants
 - 3414.3 Optical/Ophthalmic Laboratory Technicians and Assistants
 - 3414.4 Pharmacy Assistants
 - 3414.5 Central Supply Aides
 - 3414.6 Blood Donor Clinic Assistants
 - 3414.7 Morgue Attendants

3111.1 Specialists in Clinical Medicine

Specialists in clinical medicine diagnose and treat diseases and physiological and psychiatric disorders, and act as consultants to other physicians. This group includes residents training to become specialist physicians in clinical medicine.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	2	2	3	3	2	2

INTERESTS

ISD

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	3*	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H5*

EDUCATION/TRAINING

8+, R

Examples of Job Titles

- anesthetist
- cardiologist
- clinical immunologist-allergist
- dermatologist
- diagnostic radiologist
- emergency physician
- endocrinologist
- gastroenterologist
- geriatrician
- hematologist
- nephrologist
- neurologist
- oncologist
- orthopedist
- pediatrician
- physiatrist
- pneumologist
- psychiatrist
- radiation oncologist
- respirologist
- rheumatologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply medical knowledge in the diagnosis and treatment of diseases and physiological and psychiatric disorders
- **Verbal ability** to use medical terminology and communicate with the public and other health care professionals
- **Numerical ability** to prescribe and administer medications
- **Innovative interest in co-ordinating** information about patients' conditions by ordering and interpreting laboratory tests, X-rays and other diagnostic procedures; may conduct medical research
- **Social interest in mentoring** patients by providing treatment for physiological and psychiatric disorders
- **Directive interest in precision working** to prescribe drugs and treatments, and refer patients for surgery; and in acting as consultants to other physicians

Physical Activities

Vision

2 Near vision

Colour Discrimination

1 Relevant

Hearing

3 Other sound discrimination

Body Position

3* Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Hazards

H2 Biological agents
H5* Radiation

Employment Requirements

Education/Training

8+, R

Specialist physicians

- A Bachelor of Science degree
or
in Quebec, completion of a college program and one year of pre-medicine university studies is usually required.
- Graduation from an approved medical school and specific specialty training are required.
- Completion of the certifying examinations of the Royal College of Physicians and Surgeons of Canada or the "Collège des médecins du Québec" *and* licensing by the provincial or territorial licensing authority are required.

Specialists in clinical medicine

- Four to five years of specialty residency training are required.
- Two years of subspecialty training may also be required.

Workplaces/Employers

Hospitals

Private practices

Occupational Options

Progression to management positions is possible with experience.

Similar Occupations Classified Elsewhere

Chiropractors (3122)

General Practitioners and Family Physicians (3112)

Managers in Health Care (0311)

Naturopathic physicians and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) may also apply.

*Environmental Conditions

- For some occupations in this group, **Hazards H5** (Radiation) may also apply.

3111.2 Specialists in Laboratory Medicine

Specialists in laboratory medicine study the nature, cause and development of diseases in humans. This group includes residents training to become specialist physicians in laboratory medicine.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	1	2	2	3	3	2	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

8+, R

Examples of Job Titles

anatomical pathologist
general pathologist
hematopathologist
medical biochemist
medical microbiologist
neuropathologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply medical knowledge in the investigation of the nature, cause and development of diseases in humans
- **Verbal ability** to use medical terminology and communicate with the public and other health care professionals
- **Numerical ability** to accurately analyze data from laboratory tests
- **Innovative interest in mentoring** by conducting research to further medical knowledge about the structural and functional changes caused by diseases
- **Objective interest in precision working** to conduct microscopic and chemical analyses of laboratory samples and specimens
- **Directive interest in co-ordinating** the supervision of laboratory activities; and in acting as consultants to other physicians

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

8+, R

Specialist physicians

- A Bachelor of Science degree
or
in Quebec, completion of a college program and one year of pre-medicine university studies is usually required.
- Graduation from an approved medical school and specific specialty training are required.
- Completion of the certifying examinations of the Royal College of Physicians and Surgeons of Canada or the "Collège des médecins du Québec" *and* licensing by the provincial or territorial licensing authority are required.

Specialists in laboratory medicine

- Four to five years of specialty residency training are required.

Workplaces/Employers

Hospitals

Occupational Options

Progression to management positions, such as director of laboratory medicine, is possible with experience.

Similar Occupations Classified Elsewhere

Chiropractors (3122)

General Practitioners and Family Physicians (3112)

Managers in Health Care (0311)

Naturopathic physicians and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3111.3 Specialists in Surgery

Specialists in surgery perform and supervise surgical procedures. This group includes residents training to become specialist physicians in surgery.

Profile Summary										Examples of Job Titles									
APTITUDES										cardiac surgeon general surgeon neurosurgeon obstetrician-gynecologist ophthalmologist orthopedic surgeon otorhinolaryngologist pediatric surgeon plastic surgeon thoracic surgeon urologist vascular surgeon									
G	V	N	S	P	Q	K	F	M											
1	1	2	1	1	3	1	1	1											
INTERESTS																			
IOD																			
DATA PEOPLE THINGS (DPT)																			
101																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
1	1	2	3	1	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1, H2, H3																			
EDUCATION/TRAINING																			
8+, R																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply medical knowledge and surgical procedures in the treatment of patients
- **Verbal ability** to use medical terminology and communicate with the public and other health care professionals
- **Spatial and form perception** to acquire a knowledge of anatomy and observe physical indications of disease and damage in the body
- **Finger dexterity** to perform surgical procedures
- **Innovative interest in mentoring** by assessing patients' diseases and disorders to determine appropriate surgical procedures
- **Objective interest in precision working** to perform surgical procedures to correct physical abnormalities and deficiencies and repair injuries
- **Directive interest in co-ordinating** information to supervise surgical procedures; and in acting as consultants to other physicians

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools

Employment Requirements

Education/Training

8+, R

Specialist physicians

- A Bachelor of Science degree
or
in Quebec, completion of a college program and one year of pre-medicine university studies is usually required.
- Graduation from an approved medical school and specific specialty training are required.
- Completion of the certifying examinations of the Royal College of Physicians and Surgeons of Canada or the "Collège des médecins du Québec" *and* licensing by the provincial or territorial licensing authority are required.

Specialists in surgery

- Five to six years of specialty residency training are required.
- Two years of subspecialty training may also be required.

Workplaces/Employers

Hospitals

Occupational Options

Progression to management positions, such as chief of surgery, is possible with experience.

Similar Occupations Classified Elsewhere

Chiropractors (3122)

General Practitioners and Family Physicians (3112)

Managers in Health Care (0311)

Naturopathic physicians and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3112 General Practitioners and Family Physicians

General practitioners and family physicians diagnose and treat patients' diseases, physiological disorders and injuries. They provide primary contact and continuous care toward the management of patients' health. Residents training to become general practitioners and family physicians are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	2	2	2	3	2	2

INTERESTS

ISD

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3

EDUCATION/TRAINING

8+, R

Examples of Job Titles

- family physician
- general practitioner (GP)
- medical doctor
- resident, general practice

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine patients, order laboratory tests, X-rays and other diagnostic procedures, consult with other medical practitioners to evaluate patients' physical and mental health, and to provide emergency, pre-natal and post-natal care
- **Verbal ability** to take patients' case histories and report births, deaths and contagious and other diseases to government authorities; and to communicate in a patient advocacy role
- **Numerical ability** to prescribe and administer medications
- **Spatial and form perception** to analyze X-rays, visualize the position of internal organs and structures, and detect external abnormalities while examining patients
- **Finger and manual dexterity** to perform and assist in routine surgery, to deliver babies and to immunize patients
- **Innovative interest in precision working** to diagnose diseases, prescribe treatments and provide continuous care to patients
- **Social interest in mentoring** by providing counselling and support to patients and their families on a wide range of health and lifestyle issues, by advising patients and their families on health care including health promotion and disease, illness and accident prevention and by referring patients to specialists
- **Directive interest in co-ordinating** information from the results of medical tests to advise patients on health care options; in providing acute care management, in co-ordinating or managing primary patient care and in supervising home care services

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light
-

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
 - H3 Equipment, machinery, tools
-

Employment Requirements

Education/Training

8+, R

- A bachelor's degree
or
in Quebec, completion of a college program and one year of pre medicine university studies is usually required.
- Graduation from an approved medical school
and
two to three years of family medicine residency training are required.
- Completion of the qualifying examinations of the Medical Council of Canada or the "Collège des médecins du Québec"
and
licensing by the provincial or territorial licensing authority are required.

Workplaces/Employers

Clinics

Community health centres

Hospitals

Private practices

Public health facilities

Occupational Options

General practitioners and family physicians may become specialist physicians with additional training.

Similar Occupations Classified Elsewhere

Chiropractors (3122)

Naturopathic physicians and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

Specialist Physicians (3111)

3113 Dentists

Dentists diagnose, treat, prevent and control disorders of the teeth and mouth.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	1	2	3	1	1	1

INTERESTS

IOs

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	3*	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3, H5*

EDUCATION/TRAINING

8, R

Examples of Job Titles

dentist
endodontist
oral and maxillofacial surgeon
oral pathologist
oral radiologist
orthodontist
pediatric dentist
periodontist
prosthodontist
public health dentist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose disease, injury and decay, and to plan appropriate treatment by examining patients' teeth, gums and surrounding tissues
- **Verbal ability** to write fabrication instructions and prescriptions for use by denturists and dental technicians, and to supervise dental hygienists, dental assistants and other staff
- **Numerical ability** to administer anesthetics, and to fill cavities with amalgam, silver, gold and other materials
- **Spatial and form perception** to interpret X-rays and identify abnormalities such as diseases, injuries and malformation of the teeth, gums and other oral structures
- **Motor co-ordination and finger dexterity** to perform oral surgery, periodontal surgery and other treatments
- **Manual dexterity** to restore, extract and replace diseased and decayed teeth, and to clean teeth
- **Innovative interest in co-ordinating** information gathered from examining patients' teeth, gums and surrounding tissue to design bridgework, fit dentures and provide appliances to correct abnormal positioning of the teeth and jaws
- **Objective interest in precision working** with dental and surgical instruments
- **Social interest in mentoring** patients by instructing them on oral hygiene to prevent dental problems

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3* Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools
- H5* Radiation

Employment Requirements

Education/Training

8, R

- One to four years of pre-dentistry university studies, or, in Quebec, completion of a college program in sciences *and* a university degree from a recognized dental program are required.
- Licensing by a provincial or territorial regulatory body is required.
- Licensing for specializations is required.

Workplaces/Employers

Clinics

Hospitals

Private practices

Public health facilities

Universities

Occupational Options

Dentists in general practice can move into a specialized practice through advanced training.

Certification by the National Dental Examining Board of Canada entitles dentists or graduates of approved dental programs to practise dentistry in any province in Canada provided requirements set out by the provincial and territorial licensing authorities are met.

Similar Occupations Classified Elsewhere

Dental Assistants (3411)

Dental Hygienists and Dental Therapists (3222)

Dental Technologists, Technicians and Laboratory Bench Workers (3223)

Denturists (3221)

Remarks

Dentists may specialize in such areas as oral and maxillofacial surgery, orthodontics, pediatric dentistry, periodontics, endodontics, prosthodontics, oral pathology, oral radiology or public health dentistry.

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) may also apply.

*Environmental Conditions

- For some occupations in this group, **Hazards H5** (Radiation) may also apply.

3114 Veterinarians

Veterinarians prevent, diagnose and treat diseases and disorders in animals, and advise clients on the feeding, hygiene, housing and general care of animals.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	1	2	3	2	2	2

INTERESTS

IOs

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	2	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H2, H3, D3

EDUCATION/TRAINING

8+, R

Examples of Job Titles

small animal veterinary specialist
veterinarian
veterinary inspector
veterinary pathologist
veterinary physiologist
zoo veterinarian

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **spatial perception** to diagnose diseases and abnormal conditions in animals through physical examinations and laboratory tests
- **Verbal ability** to advise clients on feeding, housing, breeding, hygiene and general care of animals; may supervise animal health technologists and animal care workers
- **Motor co-ordination** and **finger dexterity** to immunize animals for disease prevention, to perform surgery and routine, emergency and post-mortem examinations and to provide obstetrical and dental services
- **Manual dexterity** to set bones and dress wounds of injured and sick animals
- **Innovative interest** in **co-ordinating** information to diagnose and treat sick and injured animals, and to prescribe medications; may conduct veterinary research, co-ordinate the operations of animal hospitals, clinics and mobile services to farms, and may enforce government regulations in disease control and food production including animal and animal-based food inspection
- **Objective interest** in **precision working** with scientific instruments and medical equipment to diagnose diseases and perform surgery
- **Social interest** in **mentoring** by treating sick and injured animals, by advising clients on proper care of animals and by providing euthanasia services

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 2 Standing and/or walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2* Light

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools

Discomforts

- D3 Odours

Employment Requirements

Education/Training

8+, R

- Two to four years of pre-veterinary university studies or, in Quebec, completion of a college program in health science
and
a four-year university degree in veterinary medicine
and
completion of national certification examinations are required.

- Provincial licensure is required.
- Entry into research positions may require post-graduate study.

Workplaces/Employers

Animal clinics
Government
Industry
Laboratories
Private practices

Occupational Options

The duties of veterinarians performing research may be similar to those of some biologists.

Similar Occupations Classified Elsewhere

Biologists and Related Scientists (2121)

Veterinary and Animal Health Technologists and Technicians (3213)

Remarks

*Physical Activities

- For some occupations in this group, Strength 3 (Medium) may also apply.

3121 Optometrists

Optometrists examine patients' eyes, prescribe and fit eyeglasses and contact lenses, and recommend treatments such as exercises to correct vision problems and ocular disorders.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	2	2	3	3	3	3

INTERESTS

OSD

DATA PEOPLE THINGS (DPT)

264

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8, R

Examples of Job Titles

doctor of optometry
optometrist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine patients' eyes and conduct tests using instruments to determine visual efficiency
- **Verbal ability** to prescribe eyeglasses and contact lenses, and to prescribe treatment (excluding surgery) to conserve, improve and correct vision and other ocular disorders
- **Spatial and form perception** to interpret readings from test results to identify defects in the eyes and surrounding tissues and to fit eyeglasses and contact lenses on patients
- **Objective interest** in operating specialized instruments such as ophthalmoscopes and biomicroscopes to conduct eye examinations
- **Social interest** in **speaking** to educate and counsel patients on contact lens use and care, visual hygiene, lighting arrangements, working distance and other safety factors
- **Directive interest** in **analyzing** data collected from eye examinations to determine the type of prescription required, and to refer patients to ophthalmologists and other physicians and surgeons for treatment of ocular or other diseases or conditions

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited
-

Environmental Conditions

Location

- L1 Regulated inside climate
-

Employment Requirements

Education/Training

8, R

- One to three years of college or university, with a concentration in mathematics and science courses *and* a four-year university program in optometry are required.
 - Licensure by the provincial or territorial governing body is required.
-

Workplaces/Employers

Clinics

Community health centres

Private practices

Similar Occupations Classified Elsewhere

Ophthalmologists (in 3111 *Specialist Physicians*)

Opticians (3231)

Orthoptists (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

Remarks

Optometrists may specialize in fitting visual aids for people who are partially blind, fitting contact lenses or correcting special vision problems.

Chiropractors diagnose and treat patients' neuromuscular-skeletal disorders of the spine and other body joints by adjusting the spinal column or through other corrective manipulation.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	2	4	2	2	2

INTERESTS

ISM

DATA PEOPLE THINGS (DPT)

104

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	2	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H5*

EDUCATION/TRAINING

8, R

Examples of Job Titles

chiropractic doctor
chiropractor
doctor of chiropractic

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to analyze case histories, observe and examine patients, and perform X-rays and other tests to diagnose neuromuscular-skeletal conditions
- **Verbal ability** to order diagnostic tests and question patients to diagnose extent of disorders of the spinal column, pelvis, extremities and associated tissues
- **Spatial and form perception** to read and interpret X-rays and other test results, to visualize the arrangement of internal organs and structures and to visually identify spinal damage and bone misalignment when examining patients
- **Motor co-ordination** to treat health disorders in a natural manner through adjustments or articular manipulations and complementary treatments such as electrotherapy, nutrition, light and massage with special attention given to the spine
- **Finger and manual dexterity** to perform corrective manipulations of the spinal column and associated tissues
- **Innovative interest in co-ordinating** information from examinations and tests to determine the effectiveness of various treatments such as electrotherapy, light and massage
- **Social interest in mentoring** patients by advising on corrective exercises, posture, lifestyle and nutrition, and by referring them for medical care when appropriate
- **Methodical interest in manipulating** the spinal column, pelvis, extremities, associate tissues and therapeutic medical equipment according to established practices and procedures

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

4 Other body positions

Limb Co-ordination

2 Multiple limb co-ordination

Strength

2* Light

Environmental Conditions

Location

L1 Regulated inside climate

Hazards

H5* Radiation

Employment Requirements

Education/Training

8, R

- A minimum of two years of university undergraduate studies in sciences *and* completion of a four- or five-year program at an institution accredited by the Accreditation Commission of the Council of Chiropractic Education *and* completion of the examinations of the Canadian Chiropractic Examining Board and of the provincial licensing body are required.
- Licensure by a regulatory body is required in all provinces and in the Yukon.

Workplaces/Employers

Clinics

Private practices

Similar Occupations Classified Elsewhere

Chiropractic aides (in 3414 *Assisting Occupations in Support of Health Services*)

Remarks

*Physical Activities

- For this occupation, **Strength 3** (Medium) may also apply.

*Environmental Conditions

- For this occupation, **Hazards H5** (Radiation) may also apply.

3123.1 Doctors of Podiatric Medicine

Doctors of podiatric medicine diagnose and treat diseases, deformities and injuries of the human foot.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	2	4	3	2	2

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3, H5*

EDUCATION/TRAINING

8+, R

Examples of Job Titles

doctor of podiatric medicine (DPM)
podiatrist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to take patients' case histories, perform physical examinations of the foot, conduct or order tests and diagnose and treat diseases, deformities and injuries of the foot
- **Verbal ability** to communicate diagnoses to patients, to prescribe corrective footwear and refer patients to physicians and other medical specialists as required
- **Spatial and form perception** to interpret X-rays and other test results to diagnose disorders and diseases of the foot
- **Innovative interest in mentoring** patients by providing treatment of disorders and proper foot care using braces, casts, shields, splints, physical therapy and medications, and by performing surgery on the bones of the forefoot and subcutaneous soft tissues of the foot
- **Methodical interest in co-ordinating** information obtained through tests and X-ray examinations to diagnose conditions including tumours, ulcers, fractures, skin and nail diseases and deformities of the foot
- **Objective interest in precision working** with surgical tools and mechanical and electrical techniques to treat conditions such as corns, calluses, ingrown nails, foot imbalance and flat feet

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

2 Light

Environmental Conditions

Location

L1 Regulated inside climate

Hazards

H2 Biological agents

H3 Equipment, machinery, tools

H5* Radiation

Employment Requirements

Education/Training

8+, R

- A four-year doctoral degree program in podiatric medicine available in the United States, normally following completion of a bachelor's degree program is required.
- A one-year medical residency is required in British Columbia.
- A doctor of podiatric medicine (DPM) degree is required to practice podiatry in Quebec, Alberta and British Columbia.
- Provincial licensure is required in New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

Workplaces/Employers

Clinics

Hospitals

Private practices

Occupational Options

Chiroprapist and podiatrist titles are used interchangeably in some provinces, although the title podiatrist is becoming more common. The use of the podiatrist job title does not necessarily refer to doctors of podiatric medicine (DPM).

Similar Occupations Classified Elsewhere

*Chiropractors (3122)**General Practitioners and Family Physicians (3112)**Midwives and Practitioners of Natural Healing (3232)**Specialist Physicians (3111)*

Remarks

*Environmental Conditions

- For this occupation, Hazards H5 (Radiation) may also apply.

3123.2 Chiropodists and Podiatrists

Chiropodists and podiatrists treat diseases, deformities and injuries of the human foot.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	2	4	3	3	3

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3

EDUCATION/TRAINING

6, 7, R

Examples of Job Titles

chiropodist
foot specialist
podiatrist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to take patients' case histories, perform physical examinations of the foot and determine treatment required for diseases, deformities and injuries of the foot
- **Verbal ability** to discuss treatment with patients, to prescribe corrective footwear and refer patients to physicians and other medical specialists when necessary
- **Spatial and form perception** to interpret X-rays and other test results to determine the nature of disorders and diseases of the foot
- **Innovative interest in mentoring** patients by providing treatment of disorders and proper foot care using braces, casts, shields, splints, physical therapy and medications; may perform subcutaneous soft-tissue foot surgery
- **Methodical interest in co-ordinating** information obtained through tests and X-ray examinations to identify conditions including tumours, ulcers, fractures, skin and nail diseases and deformities of the foot
- **Objective interest in precision working** with surgical tools and mechanical and electrical techniques to treat conditions such as corns, calluses, ingrown nails, foot imbalance and flat feet

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools

Employment Requirements

Education/Training

- 6, 7, R

- A three-year diploma program in chiropody (D.Ch.) obtained in Canada *or* a first-degree program in podiatric medicine (D.Pod.M.) obtained abroad (United Kingdom) is usually required.
- Provincial licensure is required in New Brunswick, Ontario, Manitoba, Saskatchewan, and British Columbia.

Workplaces/Employers

- Clinics
- Community health centres
- Hospitals
- Private practices

Occupational Options

Chiroprapist and podiatrist titles are used interchangeably in some provinces, although the title podiatrist is becoming more common. The use of the podiatrist job title does not necessarily refer to doctors of podiatric medicine (DPM).

Similar Occupations Classified Elsewhere

Chiropractors (3122)

General Practitioners and Family Physicians (3112)

Midwives and Practitioners of Natural Healing (3232)

Specialist Physicians (3111)

3123.3 Naturopaths

Naturopaths use natural healing methods to treat patients' diseases and disorders.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	4	3	3	3

INTERESTS

IMS

DATA PEOPLE THINGS (DPT)

104

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3

EDUCATION/TRAINING

8, R

Examples of Job Titles

naturopath
naturopathic doctor (ND)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose patients' diseases and disorders and use natural methods of healing in their treatment
- **Verbal ability** to determine disorders by interviewing and questioning patients regarding symptoms, and to discuss treatments
- **Innovative interest in co-ordinating** information obtained by observing, interviewing and examining patients to diagnose and treat disorders and illnesses with natural methods of healing such as herbal medicines, biochemical therapy, clinical nutrition, homeopathy and counselling
- **Methodical interest in operating** equipment to perform acupuncture and hydrotherapy; and in performing acupressure, reflexology and spinal manipulation
- **Social interest in mentoring** patients by prescribing treatments and diets that include natural foods and herbs, corrective exercises and other natural methods of healing

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools

Employment Requirements

Education/Training
8, R

- A university degree in pre-medical science is required.
- Completion of a university program in naturopathic medicine, obtained abroad
or
a four-year program in naturopathic medicine from a private institute is required.
- A licence is required in Ontario, Manitoba, Saskatchewan and British Columbia.

Workplaces/Employers

Clinics
Hospitals
Private practices

Similar Occupations Classified Elsewhere

Chiropractors (3122)

General Practitioners and Family Physicians (3112)

Midwives and Practitioners of Natural Healing (3232)

Specialist Physicians (3111)

3123.4 Orthoptists

Orthoptists assist ophthalmologists in diagnosing and treating eye disorders.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	2	4	4	3	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 7+, R

Examples of Job Titles

orthoptist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist ophthalmologists in diagnosing and treating eye disorders
- **Verbal ability** to discuss prescribed treatments, such as eye exercises, with patients
- **Form perception** to measure and assess defective binocular vision and abnormal eye movements
- **Innovative interest in compiling** information from records of patients' progress and conditions; and in performing specialized eye tests to assist in the diagnosis and treatment of defective binocular vision
- **Objective interest in operating** eye-testing equipment for the purpose of measuring visual acuity, eye-motor movement and focusing ability of eyes, separately and jointly
- **Directive interest in speaking** with patients and parents of young patients on the use of corrective methods at home; and in prescribing treatments such as exercises and patching regimens

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+, 7+, R

- A minimum of two years of university education with a specialization in science and a two-year accredited hospital-based training program in orthoptics offered in Halifax, Toronto, Saskatoon and Vancouver and practical training under the supervision of an ophthalmologist are required.
- Certification with the Canadian Orthoptic Council is available but is only required in Quebec.
- Continuing education is required for recertification with the Canadian Orthoptic Council.

Workplaces/Employers

Clinics
Hospitals

Occupational Options

Orthoptists often work as part of a medical team which includes ophthalmologists, opticians and other ophthalmic medical personnel.

Orthoptists may also be trained as ophthalmic technicians or technologists.

Similar Occupations Classified Elsewhere

- Chiropractors (3122)*
- General Practitioners and Family Physicians (3112)*
- Midwives and Practitioners of Natural Healing (3232)*
- Specialist Physicians (3111)*

3123.5 Osteopaths

Osteopaths diagnose and treat disorders and injuries of the musculoskeletal, circulatory and nervous systems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	1	2	4	2	1	1

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

104

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

doctor of osteopathy

osteopath

osteopathic physician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose disorders and injuries of the musculoskeletal, circulatory and nervous systems
- **Verbal ability** to determine the extent of disorders by interviewing patients regarding symptoms
- **Spatial and form perception** to interpret X-rays and results of medical tests and determine the extent of disorders by observing and examining patients
- **Motor co-ordination and finger and manual dexterity** to perform manipulative therapy; may perform surgery and medical procedures
- **Innovative interest in mentoring** by providing treatment for patients' disorders and advising patients on corrective and therapeutic methods
- **Methodical interest in co-ordinating** information on patients' conditions by performing examinations and analyzing results of medical tests
- **Objective interest in operating** equipment to correct disorders of the musculoskeletal, circulatory and nervous systems

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools

Employment Requirements

Education/Training

7+, 8+, R

- A bachelor's degree is required for admission to a doctor of osteopathy program.
- A four-year program in osteopathic medicine leading to a doctor of osteopathy degree *and* a one-year medical residency are required. These qualifications are usually obtained in the United States.
- In Quebec, to practise osteopathic manipulative medicine, completion of a Bachelor of Science degree and an osteopathic program is required.
- A licence is required in New Brunswick, Quebec, Ontario, Saskatchewan, Alberta and British Columbia.

Occupational Options

Osteopaths may obtain a licence as general practitioners.

Osteopaths have full scope of practice in New Brunswick and Alberta, and limited scope of practice (to practise osteopathic manipulative medicine) in Quebec, Ontario, Saskatchewan and British Columbia.

Similar Occupations Classified Elsewhere

Chiropractors (3122)

General Practitioners and Family Physicians (3112)

Midwives and Practitioners of Natural Healing (3232)

Specialist Physicians (3111)

Workplaces/Employers

Clinics
Hospitals
Private practices

3131.1 Community Pharmacists and Hospital Pharmacists

Community pharmacists and hospital pharmacists compound and dispense prescribed pharmaceuticals and provide consultative services to both clients and health care providers.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	2	3	3	3	3

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	2	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

clinical pharmacist
community pharmacist
druggist
hospital pharmacist
pharmacist
retail pharmacist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to compound and dispense prescribed pharmaceutical products and to order and maintain stock of pharmaceutical supplies
- **Verbal ability** to provide consultative services to both clients and health care providers on the uses and effects of pharmaceuticals
- **Numerical ability** to calculate, measure and mix quantities of drugs and other ingredients, to fill appropriate containers with correct quantities, and to check prescriptions for proper dosages
- **Form perception** to make visual comparisons and discriminations when preparing pharmaceutical compounds
- **Clerical perception** to maintain medication profiles of customers including registry of poisons, narcotics and other controlled drugs
- **Methodical interest in precision working** to dispense prescribed pharmaceuticals to customers and other health care professionals, and to ensure proper preparation, packaging, distribution and storage of vaccines, serums, biological and other drugs and pharmaceuticals; and in ordering and maintaining stock of pharmaceutical supplies
- **Innovative interest in synthesizing** pharmaceutical products; and in advising customers and health care professionals on indications, contra-indications, adverse effects, drugs interactions and dosage
- **Directive interest in instructing** and advising customers on the selection and use of non-prescription medications; may supervise and co-ordinate the activities of other pharmacists, pharmacy assistants, pharmacy technicians and other staff

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 2 Standing and/or walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

7+, R

- A Bachelor of Science degree in pharmacy is required.
- Pharmacists also require practical training under the supervision of a pharmacist.
- Licensure is required in all provinces and territories for community and hospital pharmacists.

Workplaces/Employers

Community pharmacies

Hospitals pharmacies

Self-employment

Similar Occupations Classified Elsewhere

Chemists (2112)

Chiefs of pharmacy (in 0311 *Managers in Health Care*)

Drugstore managers (in 0621 *Retail Trade Managers*)

Pharmaceutical sales representatives (in 6221 *Technical Sales Specialists – Wholesale Trade*)

Pharmacologists (in 2121 *Biologists and Related Scientists*)

Pharmacy assistants (in 3414 *Other Assisting Occupations in Support of Health Services*)

Pharmacy directors (in 0311 *Managers in Health Care*)

Pharmacy managers (in 0621 *Retail Trade Managers*)

3131.2 Industrial Pharmacists

Industrial pharmacists participate in the research, development, promotion and manufacture of pharmaceutical products.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	2	3	3	3	3

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

061

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H1

EDUCATION/TRAINING

7+

Examples of Job Titles

clinical pharmacist
industrial pharmacist
pharmacist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to participate in the research, development and manufacture of pharmaceutical products
- **Verbal ability** to develop information materials concerning the uses, properties and risks of drugs
- **Numerical ability** to test new drug products for stability, and to determine their absorption and elimination patterns
- **Form perception** to make visual comparisons and discriminations when preparing pharmaceutical compounds
- **Innovative interest** in synthesizing drug products by participating in basic research for the development of new drugs and formulating new drug products developed by medical researchers
- **Methodical interest** in **precision working** to control the quality of drug products during production to ensure that they meet standards of potency, purity, uniformity, stability and safety
- **Directive interest** in **speaking** to co-ordinate clinical investigations of new drugs; in promoting pharmaceutical products to health professionals; and in evaluating labelling, packaging and advertising of drug products

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H1 Dangerous chemical substances

Employment Requirements

Education/Training
7+

- A Bachelor of Science degree in pharmacy is required.
- Pharmacists also require practical training under the supervision of a pharmacist.

Workplaces/Employers

Government departments and agencies

Pharmaceutical companies

Similar Occupations Classified Elsewhere

Chemists (2112)

Chiefs of pharmacy (in 0311 *Managers in Health Care*)

Drugstore managers (in 0621 *Retail Trade Managers*)

Pharmaceutical sales representatives (in 6221 *Technical Sales Specialists – Wholesale Trade*)

Pharmacologists (in 2121 *Biologists and Related Scientists*)

Pharmacy assistants (in 3414 *Other Assisting Occupations in Support of Health Services*)

Pharmacy directors (in 0311 *Managers in Health Care*)

Pharmacy managers (in 0621 *Retail Trade Managers*)

3132 Dietitians and Nutritionists

Dietitians and nutritionists plan, organize, conduct and supervise programs in nutrition, diet and food service.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	4	4	4	4

INTERESTS

DIS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

administrative dietitian
clinical dietitian
community nutritionist
consultant dietitian
dietitian
nutrition and dietetics researcher
nutritionist
public health nutritionist
registered dietitian (RD)
registered nutritionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop, administer and supervise nutrition, food preparation and service programs in hospitals, nursing homes, schools, company cafeterias or similar settings and to evaluate nutritional status of individuals
- **Verbal ability** to practise on an individual basis or as a member of an interdisciplinary team to determine nutritional needs of patients, to plan normal and therapeutic menus, and to prepare technical publications concerning food and nutrition
- **Numerical ability** to calculate the nutritional value of foods, and to calculate food costs
- **Directive interest** in co-ordinating and developing educational materials for various audiences; and in planning, evaluating and conducting nutrition education programs
- **Innovative interest** in studying and analyzing current scientific nutritional studies, in conducting research to improve the nutritional value, taste, appearance and preparation of food and in aiding in the prevention and/or treatment of inadequate nutrition
- **Social interest** in consulting to provide nutrition counselling and consulting to health professionals, dietetic interns, community groups, competitive sports teams, government, the media and individuals

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7+, 8+, R

- Dietitians require a master's or bachelor's degree in dietetics, nutrition or a related field such as food and nutritional science or biochemistry *and* one to two years of supervised practical training.
- Licensure with a regulatory body is required in all provinces for dietitians.
- Membership in the national association, Dietitians of Canada, may be required for dietitians.
- Nutritionists usually require the same education and training as dietitians.
- Registration with the national association, Dietitians of Canada and/or a provincial regulatory body is available for nutritionists who have the same education and practical training as dietitians.

Workplaces/Employers

Educational institutions
Extended care facilities
Food and beverage industry
Government
Hospitals
Public health centres
Self-employment
Sports organizations

Occupational Options

Dietitians and nutritionists may progress to management positions through additional experience.

Similar Occupations Classified Elsewhere

Dietary technicians (in 3219 *Other Medical Technologists and Technicians (Except Dental Health)*)

Director of dietetics (in 0311 *Managers in Health Care*)

Food Service Supervisors (6212)

Home economists (in 4164 *Social Policy Researchers, Consultants and Program Officers*)

Remarks

Dietitians and nutritionists may specialize in such areas as administrative dietetics, clinical dietetics, community dietetics, public health dietetics and research dietetics.

3141.1 Audiologists

Audiologists diagnose, evaluate and treat hearing disorders.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

OIS

DATA PEOPLE THINGS (DPT)

104

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	3	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8, R

Examples of Job Titles

- audiologist
- certified audiologist
- clinical audiologist
- educational audiologist
- research audiologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose, evaluate and treat hearing disorders, and to conduct research related to hearing and the effects of hearing disorders on human communication
- **Verbal ability** to communicate diagnosis to patients; may instruct students and other health care personnel in audiology practices
- **Objective interest** in operating equipment to administer audiometric tests and examinations to diagnose and evaluate the degree and type of patients' hearing impairment
- **Innovative interest** in co-ordinating research programs and conducting research related to hearing; and in establishing personalized care plans working as a member of an inter-disciplinary team
- **Social interest** in mentoring patients by planning and implementing habilitation/rehabilitation programs including selection and adjustment of hearing aid devices, teaching speech (lip) reading and providing counselling

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
3	Other sound discrimination
Body Position	
1	Sitting
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
8, R

- Audiologists require a master's degree in audiology.
- Registration with a regulatory body is required for audiologists in New Brunswick, Quebec, Ontario, Manitoba and Saskatchewan.
- Membership in the national association, Canadian Association of Speech-Language Pathologists and Audiologists, may be required.
- In some jurisdictions, audiologists may be required to obtain a separate licence to dispense hearing aids.

Workplaces/Employers

Community and public health centres
Day clinics
Educational institutions
Extended care facilities
Hospitals
Private practices
Rehabilitation centres

Occupational Options

Progression into management positions, such as chief audiologist, is possible with experience.

Similar Occupations Classified Elsewhere

Audiology and speech-language technical and assisting occupations (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Managers in Health Care (0311)

Phoniatricians (in 3111 *Specialist Physicians*)

3141.2 Speech-Language Pathologists

Speech-language pathologists diagnose, evaluate and treat human communication disorders including speech, language and voice disorders.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

MIS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8, R

Examples of Job Titles

- speech therapist
- speech-language clinician
- speech-language pathologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose, evaluate and treat speech, language and voice disorders, and to conduct research related to human communication disorders
- **Verbal ability** to communicate diagnosis to patients, to use terminology associated with communication therapy, and to provide speech training to correct communication problems; may instruct students and other health care personnel
- **Methodical interest** in administering tests and examinations and observing patients to diagnose and evaluate speech, voice, resonance, language, cognitive-linguistic and swallowing disorders
- **Innovative interest** in co-ordinating research programs; in conducting research on speech and other communication disorders and on the development and design of diagnostic procedures and devices; and in establishing group and personalized care plans working as a member of an interdisciplinary team
- **Social interest** in instructing patients by planning and implementing remedial programs to correct speech, language and voice disorders

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8, R

- Speech-language pathologists require a master's degree in speech-language pathology.
- Registration with a regulatory body is required for speech-language pathologists in New Brunswick, Quebec, Ontario, Manitoba and Saskatchewan.
- Membership in the national association, Canadian Association of Speech-Language Pathologists and Audiologists, may be required.

Workplaces/Employers

Community and public health centres

Day clinics

Education institutions

Extended care facilities

Hospitals

Private practices

Rehabilitation centres

Occupational Options

Progression into management positions, such as director of speech-language pathology, is possible with experience.

Similar Occupations Classified Elsewhere

Audiology and speech-language technical and assisting occupations (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Managers in Health Care (0311)

Phoniatricians (in 3111 *Specialist Physicians*)

3142 Physiotherapists

Physiotherapists assess patients and plan and carry out individually designed treatment programs to maintain, improve and restore physical functioning, alleviate pain and prevent physical dysfunction in patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	3	3

INTERESTS

MIS

DATA PEOPLE THINGS (DPT)

124

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

physical therapist
physiotherapist
registered physiotherapist
research physiotherapist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess patients' physical abilities through evaluative procedures such as functional ability tests, and to plan programs of physiotherapy
- **Verbal ability** to confer with other health care professionals and patients, and to communicate with referring physicians and other health care professionals regarding patients' problems, needs and progress
- **Clerical perception** to maintain clinical and statistical records
- **Methodical interest in operating** electrotherapeutic and other mechanical equipment; and in implementing programs including therapeutic exercise, manipulations, massage, education, use of electro-therapeutic and other mechanical equipment and and hydro-therapy
- **Innovative interest in co-ordinating**, developing and implementing health promotion programs for patients, staff and the community; and in evaluating the effectiveness of and modifying treatment plans; may conduct research in physiotherapy
- **Social interest in instructing** patients in therapeutic procedures to be continued at home; may provide consulting or education services

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

7+, R

- A university degree in physiotherapy and a period of supervised practical training are required.
- A licence or registration with a regulatory body is required to practise physiotherapy in all provinces.
- Completion of the Physiotherapy National Exam, administered by the Alliance of Physiotherapy Regulatory Boards, may be required.

Workplaces/Employers

Clinics

Extended care facilities

Hospitals

Industry

Private practices

Rehabilitation centres

Sports organizations

Occupational Options

Progression to management positions, such as director of physiotherapy, is possible through experience and additional training.

Similar Occupations Classified Elsewhere

Directors of physiotherapy (in 0311 *Managers in Health Care*)

Physical rehabilitation technicians (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Remarks

Physiotherapists may focus their practice in particular clinical areas such as neurology, oncology, rheumatology, orthopedics, obstetrics, pediatrics, geriatrics, in the treatment of patients with cardiovascular and cardiopulmonary disorders, burns or sports injuries and in the field of ergonomics.

3143 Occupational Therapists

Occupational therapists develop individual and group programs with people affected by illness, injury, developmental disorders, emotional or psychological problems or ageing to maintain, restore or increase their ability to care for themselves and to engage in work, school or leisure. They also develop and implement health promotion programs with individuals, community groups and employers.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	3	3

INTERESTS

SIM

DATA PEOPLE THINGS (DPT)

124

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, R

Examples of Job Titles

- clinical occupational therapist
- community occupational therapist
- occupational therapist (OT)
- occupational therapist rehabilitation consultant
- occupational therapist, case manager
- occupational therapist, research and development

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to analyze clients' capabilities and expectations related to life activities through observation, interview and formal assessments, and to plan treatment programs
- **Verbal ability** to communicate with other health care personnel and patients; and to consult on health promotion programs to prevent disabilities and maximize independent function in all activities of life; may supervise support personnel and students and provide training
- **Clerical perception** to maintain clients' records
- **Social interest in consulting** with members on interdisciplinary teams to establish personalized care plans, and to advise on health promotion programs
- **Innovative interest in co-ordinating** information to develop intervention programs to address client needs related to self-care, work and leisure activities
- **Methodical interest in manipulating** and maintaining equipment used in programs involving manual and creative arts, industrial and vocational skills, and recreational activities

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training 7, R

- A university degree in occupational therapy including supervised fieldwork is required
or
graduation from an occupational therapy program approved by the World Federation of Occupational Therapists (WFOT) is accepted in some provinces.
- Completion of the national certification examination may be required.
- Licensure with a regulatory body is required in all provinces except in British Columbia.
- Membership in the national association, Canadian Association of Occupational Therapists, is required in some provinces.
- Occupational therapists may obtain expertise in a particular area through additional training or experience.

Workplaces/Employers

Health care facilities
Private and social services agencies
Schools
Self-employment

Occupational Options

Occupational therapists may progress to management or administrative positions through further training and experience.

Similar Occupations Classified Elsewhere

Directors of occupational therapy (in 0311 *Managers in Health Care*)

Remarks

Occupational therapists may specialize in working with specific populations such as children or adults, or persons with distinct problems such as dementia, traumatic brain injury and chronic pain, or provide special interventions such as return-to-work programs.

3144

Other Professional Occupations in Therapy and Assessment

This group includes specialized therapists not elsewhere classified who use techniques such as art, athletic, dance, music or recreational therapy or remedial gymnastics to aid patients in the treatment of mental and physical disabilities.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	4	4	4	4	4	4
INTERESTS								
SIM								
DATA PEOPLE THINGS (DPT)								
104								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
3	0	2	3*	1*	1*			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
6+, 7+, 8+, R								

Examples of Job Titles

- art therapist
- art therapy consultant
- athletic therapist
- dance therapist
- dance-movement therapy researcher
- movement therapist
- music therapist
- music therapy researcher
- recreational therapist
- remedial gymnast

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess patients and prepare individualized and group treatment plans either independently or through an interdisciplinary team approach
- **Verbal ability** to review reports from physicians, psychiatrists, counsellors, teachers and others to determine patients' current and potential functioning levels, to record observations, and write progress reports
- **Innovative interest in co-ordinating**, initiating, designing and implementing specialized therapy programs for the general patient population and in the community; may conduct research in respective field of specialization
- **Social interest** in **mentoring** patients by providing treatment and advising them on how to deal with their mental and physical abilities; and in consulting with other health care professionals to evaluate treatment plans
- **Methodical interest** in **operating – manipulating** equipment and following procedures to implement treatment plans by carrying out specialized therapy sessions employing techniques such as art, athletic, dance, music or recreational therapy or remedial gymnastics; and in observing and analyzing patients during treatment sessions

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3* Sitting, standing, walking

Limb Co-ordination

- 1* Upper limb co-ordination

Strength

- 1* Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 6+, 7+, 8+, R

- Athletic therapists usually require a bachelor's degree in sport studies or exercise science with a specialization in athletic therapy or a college program in sports injury management.
- Art therapists require a graduate degree in art therapy.
- Dance therapists require a bachelor's degree in psychology or dance/movement therapy *or* an approved graduate program in dance/movement therapy.
- Music therapists usually require a bachelor's degree in music therapy.
- Recreational therapists usually require a bachelor's degree or college program in recreation with a specialization in therapeutic recreation.
- Remedial gymnasts require completion of an approved college program in remedial gymnastics.
- Supervised practical training is usually required for occupations in this group.
- Creative or technical ability in the field of specialization is usually required.
- Certification or membership with the appropriate national professional association or provincial counterpart may be required.

Workplaces/Employers

Clinics
Day-care facilities
Educational institutions
Hospitals
Nursing homes
Prisons
Private practices
Recreational centres
Rehabilitation centres

Occupational Options

There is no mobility among the different occupations in this group.

Similar Occupations Classified Elsewhere

Exercise therapists (in 4167 *Recreation, Sports and Fitness Program Supervisors and Consultants*)

Occupational Therapists (3143)

Physiotherapists (3142)

Technical assistants in therapy and assessment (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position** 4 (Other body positions), **Limb Co-ordination** 2 (Multiple limb co-ordination) and **Strength** 2 or 3 (Light or Medium) may also apply.

3151 Head Nurses and Supervisors

Head nurses and supervisors supervise and co-ordinate the activities of registered nurses, licensed practical nurses and other nursing personnel in the provision of patient care.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	2	4	4	4

INTERESTS

DMS

DATA PEOPLE THINGS (DPT)

134

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

head nurse
nursing care co-ordinator
nursing supervisor
patient care co-ordinator
psychiatric nursing supervisor
public health nursing supervisor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to ensure quality nursing care is provided and appropriate administrative procedures are followed; may provide direct patient care
- **Verbal ability** to direct, guide, instruct and train nursing staff; and to collaborate on research projects related to nursing and medical care and multidisciplinary services
- **Directive interest in supervising** registered nurses, licensed practical nurses and other nursing personnel; and in assisting in the establishment of policies and procedures
- **Methodical interest in operating** medical and hospital equipment required for patient care; in evaluating patients' needs and ensuring that required nursing care is delivered; and in administering nursing unit budgets and ensuring that supplies and equipment are available
- **Social interest in co-ordinating** and setting up nursing services in conjunction with other health services; and in assisting in the selection, evaluation and professional development of nursing personnel

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
3	Sitting, standing, walking
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

- Education/Training
5+, 6+, 7+, R
- Completion of a university, college or other approved registered nursing program is required.
 - Courses in management studies such as the Nursing Unit Administration Course offered by the Canadian Hospital Association or other degree, diploma, certificate or studies in management or administration may be required.
 - Registration as a registered nurse by a provincial or territorial regulatory body or, in Manitoba, Saskatchewan, Alberta and British Columbia, provincial registration as a registered psychiatric nurse is required.
 - Clinical experience as a registered nurse is required.

Workplaces/Employers

Clinics
Hospitals
Nursing agencies
Nursing homes

Occupational Options

Progression to management positions, such as director of nursing, is possible with experience.

Similar Occupations Classified Elsewhere

Directors of nursing and nursing unit administrators (in 0311 *Managers in Health Care*)

3152.1 General Duty Registered Nurses

General duty registered nurses provide direct nursing care to patients and consultation on health related issues. This group includes graduates of nursing programs who are awaiting registration (graduate nurses).

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	3	3	3

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, D3

EDUCATION/TRAINING

5, 6, 7, R

Examples of Job Titles

critical care nurse
graduate nurse
intensive care nurse
private duty nurse
registered nurse (R.N.)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess patients to identify appropriate nursing interventions, and to provide direct nursing care to patients
- **Verbal ability** to understand medical terminology, follow doctors' prescriptions and communicate with administrators, medical personnel and patients
- **Form perception** to detect patients' conditions and reactions to drugs and treatments, notice any significant changes in patients' general appearance and monitor medical equipment
- **Motor co-ordination and finger dexterity** to assist in surgery and other medical procedures and to use medical instruments
- **Manual dexterity** to bathe patients, dress wounds and perform other nursing duties
- **Social interest** in **speaking** to collaborate with members of an interdisciplinary health team to plan, implement, co-ordinate and evaluate patient care in consultation with patients and their families; may teach and counsel patients and their families on health-related issues in collaboration with other health care providers
- **Methodical interest** in **compiling** information to monitor, assess, address, document and report symptoms and changes in patients' conditions; and in administering medications and treatments as prescribed by physicians or according to establish policies and protocols
- **Directive interest** in **operating** medical apparatus or equipment; and in supervising licensed practical nurses and other nursing staff; may develop and implement discharge planning process on admission of patients

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Discomforts

- D3 Odours

Employment Requirements

Education/Training

- 5, 6, 7, R

- Completion of a university, college or other approved registered nursing program is required.
- Registration with a regulatory body is required in all provinces and territories.

Workplaces/Employers

Clinics

Community agencies

Doctors' offices

Extended care facilities

Hospitals

Nursing homes

Private homes

Rehabilitation centres

Self-employment

Occupational Options

Nurses trained exclusively as registered psychiatric nurses (R.P.N.) are recognized only in Manitoba, Saskatchewan, Alberta and British Columbia. In all other provinces and territories, registered nurses (R.N.) may work as psychiatric nurses without separate registration.

Registered nurses may progress to supervisory and managerial positions with experience.

Similar Occupations Classified Elsewhere

Head Nurses and Supervisors (3151)

Licensed Practical Nurses (3233)

Nursing service managers (in 0311
Managers in Health Care)

Registered practical nurses (in 3233
Licensed Practical Nurses)

Remarks

Registered nurses may specialize in areas such as surgery, obstetrics care, psychiatric care, critical care, pediatrics, geriatrics, community health, occupational health, emergency care, rehabilitation and oncology.

Additional academic training or experience is required to specialize in a specific area of nursing.

3152.2 Occupational Health Nurses

Occupational health nurses are registered nurses who develop and implement employee health education programs and provide direct nursing care in businesses and industry. This group includes graduates of nursing programs who are awaiting registration (graduate nurses).

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	4	3	3	3

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	4	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, D3

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

occupational health nurse

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop and implement employee health education programs and provide registered nursing care in private businesses and industry
- **Verbal ability** to prepare accident reports for insurance and statistical purposes, and to explain purposes and procedures of medical examinations to prospective employees
- **Form perception** to detect patients' conditions and reactions to drugs and treatments, and to notice any significant changes in patients' general appearance
- **Motor co-ordination and finger and manual dexterity** to give first aid and assist physicians with medical examinations of staff and prospective employees
- **Social interest in speaking** to advise employees about health and safety, and to advise personnel departments of health findings pertinent to employees' work capabilities
- **Methodical interest in compiling** information to keep records of persons treated and to record employees' personal and medical data
- **Directive interest in operating** medical equipment to perform tests; and in arranging for ill and seriously injured employees to be transported to hospital

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Discomforts

- D3 Odours

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Completion of a university, college or other approved registered nursing program is required.
- Additional academic training or experience is required to specialize in a specific area of nursing.
- Registration with a regulatory body is required in all provinces and territories.

Workplaces/Employers

Companies

Government

Industry

Self-employment

Occupational Options

Registered nurses may progress to supervisory and managerial positions with experience.

Similar Occupations Classified Elsewhere

Head Nurses and Supervisors (3151)

Licensed Practical Nurses (3233)

Nursing service managers (in 0311
Managers in Health Care)

Registered practical nurses (in 3233
Licensed Practical Nurses)

3152.3 Community Health Nurses

Community health nurses are registered nurses who provide health education and direct nursing care in public health units and through home visits. This group includes graduates of nursing programs who are awaiting registration (graduate nurses).

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	3	3	3

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

324

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, D3

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

community health nurse

public health nurse

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide health education and registered nursing care in public health units and through home visits
- **Verbal ability** to advise families on how to care for patients and create and maintain a healthy environment
- **Form perception** to detect patients' conditions and reactions to drugs and treatments, and to notice any significant changes in patients' general appearance
- **Motor co-ordination and finger and manual dexterity** to administer prescribed treatments to patients with mental and physical disorders, and to immunize patients
- **Social interest** in **instructing** to advise individuals and groups about health education and disease prevention, to teach maternal care, child care and other subjects related to individual and community welfare; and in participating in community needs assessment and program development
- **Methodical interest** in **compiling** information to keep patient records and to help prepare special studies; and in managing complex home care cases
- **Directive interest** in **operating** medical equipment to perform disease screening and administer treatments; and in assisting persons with social, emotional and other problems to secure aid through community resources

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 1 Relevant
- Hearing
- 3 Other sound discrimination
- Body Position
- 4 Other body positions
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 3 Medium

Environmental Conditions

- Location
- L1 Regulated inside climate
- Hazards
- H2 Biological agents
- Discomforts
- D3 Odours

Employment Requirements

- Education/Training
- 5+, 6+, 7+, R
- Completion of a university, college or other approved registered nursing program is required.
 - Additional academic training or experience is required to specialize in a specific area of nursing.
 - Registration with a regulatory body is required in all provinces and territories.

Workplaces/Employers

- Clinics
- Community agencies
- Private homes
- Public health units
- Self-employment

Occupational Options

Registered nurses may progress to supervisory and managerial positions with experience.

Similar Occupations Classified Elsewhere

- Head Nurses and Supervisors (3151)
- Licensed Practical Nurses (3233)
- Nursing service managers (in 0311 Managers in Health Care)
- Registered practical nurses (in 3233 Licensed Practical Nurses)

3152.4 Psychiatric Nurses

Psychiatric nurses are registered nurses who provide direct nursing care and supportive counselling and life skills programming to patients in psychiatric hospitals, mental health clinics and in long-term care and community-based settings. This group includes graduates of nursing programs who are awaiting registration (graduate nurses).

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	4	3	3	3

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

324

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, D3

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

psychiatric nurse
registered psychiatric nurse (R.P.N.)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide nursing care, supportive counselling and life skills programs in psychiatric hospitals, mental health clinics and in long-term care and community-based settings
- **Verbal ability** to observe, report and discuss patients' conditions with physicians and other members of a health care team
- **Form perception** to detect patients' conditions and reactions to drugs and treatments, and to notice any significant changes in patients' general appearance
- **Motor co-ordination and finger and manual dexterity** to administer prescribed medications and treatments, and to attend to total nursing care of patients
- **Social interest in instructing** patients in life skills programs; and in encouraging patients to participate in routine work functions and recreational, community and other therapeutic activities
- **Methodical interest in compiling** information to keep patient records and record symptoms and changes in patients' conditions
- **Directive interest in operating** medical equipment to perform tests and administer treatments; and in evaluating patients' adjustment in the community

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
1 Relevant
- Hearing
3 Other sound discrimination
- Body Position
4 Other body positions
- Limb Co-ordination
1 Upper limb co-ordination
- Strength
3 Medium

Environmental Conditions

- Location
L1 Regulated inside climate
- Hazards
H2 Biological agents
- Discomforts
D3 Odours

Employment Requirements

- Education/Training
5+, 6+, 7+, R
- Registered nurses (R.N.)
- Completion of a university, college or other approved registered nursing program is required.
 - Additional academic training or experience is required to specialize in a specific area of nursing.
 - Registration with a regulatory body is required in all provinces and territories.
- Registered psychiatric nurses
- Completion of a college or other registered psychiatric nursing program is required.
 - Registration with a regulatory body is required in Manitoba, Saskatchewan, Alberta and British Columbia.

Workplaces/Employers

- Community agencies
- Hospitals
- Mental health clinics
- Private homes
- Psychiatric hospitals

Occupational Options

Nurses trained exclusively as registered psychiatric nurses (R.P.N.) are recognized only in Manitoba, Saskatchewan, Alberta and British Columbia. In all other provinces and territories, registered nurses (R.N.) may work as psychiatric nurses without separate registration.

Registered nurses may progress to supervisory and managerial positions with experience.

Similar Occupations Classified Elsewhere

- Head Nurses and Supervisors* (3151)
- Licensed Practical Nurses* (3233)
- Nursing service managers (in 0311
Managers in Health Care)
- Registered practical nurses (in 3233
Licensed Practical Nurses)

3152.5 Nursing Consultants

Nursing consultants are registered nurses who provide consultative services regarding issues and concerns relevant to the practice of nursing.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	4	4	4	4

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8, R

Examples of Job Titles

nursing consultant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide consultative services to institutes, associations and health care organizations regarding issues relevant to the nursing profession and nursing practices
- **Verbal and numerical ability** to prepare data for news articles and lectures, and to confer with nursing groups and present at conferences on matters relevant to professional, educational and economic issues affecting nursing
- **Social interest in consulting** with individuals and groups to plan nursing curricula and nursing service programs; and in promoting and assisting with the planning of educational programs, field workshops and seminars
- **Methodical interest in co-ordinating** information to review administrative procedures and nursing practices to recommend changes; and in preparing and providing data for news articles and lectures
- **Directive interest** in advising hospitals, nursing schools, government and other organizations on policies, procedures and problems related to nursing activities

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training
8, R

- A master's or doctoral degree in nursing is usually required for nursing consultants.
- Registration with a regulatory body is required in all provinces and territories.

Workplaces/Employers

Associations
Companies
Government
Health care organizations
Institutes
Self-employment

Occupational Options

Registered nurses may progress to supervisory and managerial positions with experience.

Similar Occupations Classified Elsewhere

Head Nurses and Supervisors (3151)

Licensed Practical Nurses (3233)

Nursing service managers (in 0311
Managers in Health Care)

Registered practical nurses (in 3233
Licensed Practical Nurses)

3152.6 Nursing Researchers

Nursing researchers are registered nurses who engage in research activities on issues relevant to the practice of nursing.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	4	4	4	4

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8, R

Examples of Job Titles

nurse researcher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, direct and conduct research studies on issues relevant to the nursing profession and nursing practices
- **Verbal and numerical ability** to write articles and reports, interpret statistical findings and communicate the results of research findings to improve the delivery of health care
- **Methodical interest** in synthesizing data to develop recommendations on standards for nursing practices, nursing accreditation, educational needs and program design
- **Social interest** in advising nursing, medical and administrative staff on applying research findings to clinical, educational and administrative decision making
- **Directive interest** in consulting on issues related to nursing; and in supervising research staff and co-ordinating research activities

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 0 Not relevant
- Hearing
- 2 Verbal interaction

- Body Position
- 1 Sitting
- Limb Co-ordination
- 1 Upper limb co-ordination

- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 8, R
- A master's or doctoral degree in nursing is usually required for nursing researchers.
 - Registration with a regulatory body is required in all provinces and territories.

Workplaces/Employers

- Government
- Hospitals
- Private and public organizations
- Self-employment

Occupational Options

Registered nurses may progress to supervisory and managerial positions with experience.

Similar Occupations Classified Elsewhere

- Head Nurses and Supervisors* (3151)
- Licensed Practical Nurses* (3233)
- Nursing service managers (in 0311 *Managers in Health Care*)
- Registered practical nurses (in 3233 *Licensed Practical Nurses*)

3152.7 Clinical Nurses

Clinical nurses are registered nurses who provide leadership, advice and counsel on the provision of research-based care for specific patient groups within the care of particular health care organizations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	4	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8, R

Examples of Job Titles

clinical nurse

clinical nurse specialist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide leadership, advice and counsel on the provision of research-based care for specific patient groups
- **Verbal ability** to interpret research findings and communicate the results of research studies to improve the delivery of health care services
- **Innovative interest** in designing and developing innovative approaches and programs for complex clinical issues and in recommending policy and program changes
- **Methodical interest** in **co-ordinating**, implementing and evaluating nursing interventions and health care programs for patients; and in participating in strategic planning
- **Directive interest** in **consulting** with medical personnel to manage complex patient care problems; and in providing direction to nursing personnel and others implementing care programs and services

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8, R

- A master's or doctoral degree in nursing is usually required for clinical nurse specialists and clinical nurses.
- Registration with a regulatory body is required in all provinces and territories.

Workplaces/Employers

Hospitals

Institutes

Private and public organizations

Self-employment

Occupational Options

Registered nurses may progress to supervisory and managerial positions with experience.

Similar Occupations Classified Elsewhere

Head Nurses and Supervisors (3151)

Licensed Practical Nurses (3233)

Nursing service managers (in 0311
Managers in Health Care)

Registered practical nurses (in 3233
Licensed Practical Nurses)

3211.1 Medical Laboratory Technologists

Medical laboratory technologists conduct medical laboratory tests, experiments and analyses to assist in the diagnosis, treatment and prevention of disease. This group includes supervisors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	2	3	3	3	3

INTERESTS

MIO

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

clinical immunology technologist

cytology technologist

cytotechnologist

histology technologist

immunohematology technologist

medical laboratory technologist

medical technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct laboratory tests, experiments and analyses to assist in the diagnosis, treatment and prevention of disease
- **Verbal ability** to understand and use scientific terminology associated with areas of medical specialization
- **Numerical ability** to make calculations involved in laboratory experiments and tests
- **Form perception** to study blood cells and other tissue samples to determine their relation to various physiological and pathological conditions
- **Methodical interest in supervising** and training other medical laboratory technicians and laboratory workers; and in performing blood group, type and compatibility tests for transfusion purposes; may supervise and train other medical laboratory technologists
- **Innovative interest in analyzing** results of laboratory tests; and in establishing procedures for the analyses of specimens and for medical laboratory experiments
- **Objective interest in precision working** with laboratory equipment to conduct chemical analyses of blood, urine, cerebro-spinal and other body fluids, and to prepare tissue sections for microscopic examinations using techniques to demonstrate special cellular tissue elements and other characteristics; may perform the duties of a pathologist's assistant in some hospitals

Physical Activities

Vision
1 Close visual acuity

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H2 Biological agents

Employment Requirements

Education/Training
6+, 7+, R

- Medical laboratory technologists require a bachelor of science or medical laboratory science degree
or
a two- or three-year college program in medical laboratory technology
and
a period of supervised practical training.
- Registration with a regulatory body is required in New Brunswick, Quebec, Ontario, Saskatchewan and Alberta.
- Certification by the Canadian Society for Medical Laboratory Science is available for medical laboratory technologists and is usually required by employers.

Workplaces/Employers

Hospitals
Medical laboratories
Private clinics
Research institutions
Universities

Similar Occupations Classified Elsewhere

Medical Laboratory Technicians (3212)

Physical and life science technologists in non-medical laboratories (in 221 *Technical Occupations in Physical Sciences* and 222 *Technical Occupations in Life Sciences*)

Remarks

Medical laboratory technologists may specialize in areas such as clinical chemistry, clinical microbiology, hematology, histotechnology, immunohematology and cytotechnology.

3211.2 Pathologists' Assistants

Pathologists' assistants assist at autopsies and examinations of surgical specimens and perform autopsies under pathologists' supervision.

Profile Summary

APTITUDES

G

V

N

S

P

Q

K

F

M

2

2

2

3

2

3

3

3

3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V

C

H

B

L

S

1

1

1

2

1

2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3, D3

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

autopsy technologist

pathologist's assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist with and perform autopsies and surgical-specimen examinations under pathologists' supervision
- **Verbal ability** to record findings of chemical analyses and other tests; may train junior resident pathologists and train and supervise morgue attendants
- **Numerical ability** to make calculations involved in laboratory tests
- **Form perception and manual and finger dexterity** to dissect and examine organs and specimens for chemical analysis; may prepare bodies for release to funeral homes following completion of autopsies
- **Methodical interest in assisting** pathologists to prepare for autopsies by obtaining patients' medical records and arranging for radiographic examinations; and in cleaning and maintaining autopsy, surgical and other equipment
- **Objective interest in precision working** with autopsy and surgical equipment to weigh and photograph organs and specimens; may perform the duties of a medical laboratory technologist in some hospitals
- **Innovative interest in compiling** findings from chemical analyses of collected tissue specimens

Physical Activities

- Vision
- 1 Close visual acuity

- Colour Discrimination
- 1 Relevant

- Hearing
- 1 Limited

- Body Position
- 2 Standing and/or walking

- Limb Co-ordination
- 1 Upper limb co-ordination

- Strength
- 2 Light

Environmental Conditions

- Location
- L1 Regulated inside climate

- Hazards
- H2 Biological agents
 - H3 Equipment, machinery, tools

- Discomforts
- D3 Odours

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Pathologists' assistants require a Bachelor of Science degree *or* training and experience as a registered nurse, licensed practical nurse or medical laboratory technologist *and* specialized on-the-job training.
- Certification by the Canadian Society for Medical Laboratory Science may be required for pathologists' assistants.

Workplaces/Employers

Forensic laboratories

Hospitals

Morgues

Similar Occupations Classified Elsewhere

Medical Laboratory Technicians (3212)

Physical and life science technologists in non-medical laboratories (in 221 *Technical Occupations in Physical Sciences* and 222 *Technical Occupations in Life Sciences*)

3212 Medical Laboratory Technicians

Medical laboratory technicians conduct routine medical laboratory tests and set up, clean and maintain medical laboratory equipment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	3	3	3	3	3

INTERESTS

MOi

DATA PEOPLE THINGS (DPT)

370

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	1	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H5*, D3

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

medical laboratory aide
medical laboratory technician
phlebotomist
phlebotomy aide

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to perform and conduct routine laboratory tests and sample analyses used to diagnose and treat diseases
- **Form perception** to take precise readings from laboratory instruments when conducting experiments and tests
- **Clerical perception** to log patient samples and prepare them for testing
- **Motor co-ordination** and **finger** and **manual dexterity** to clean and maintain medical laboratory equipment
- **Methodical interest** in **compiling** information derived from blood, tissue and other samples collected from patients; and in collecting and receiving tissue samples from patients
- **Objective interest** in **setting up** medical laboratory equipment; and in cleaning and maintaining laboratory
- **Innovative interest** in **assisting** medical personnel to conduct laboratory tests and sample analyses

Physical Activities

Vision
1 Close visual acuity

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H2 Biological agents
H5* Radiation

Discomforts
D3 Odours

Employment Requirements

Education/Training
4, 5, 6

- Completion of secondary school and on-the-job training
or
completion of a six- to fourteen-month program for medical laboratory technicians/assistants is required.
- Combined laboratory and X-ray technicians require completion of a combined laboratory X-ray technology program.

Workplaces/Employers

Clinics
Government research laboratories
Hospitals
Research institutes
Universities

Occupational Options

Training as a licensed practical nurse, medical technician or in a related occupation is usually required for phlebotomists or phlebotomy aides.

Similar Occupations Classified Elsewhere

Medical Laboratory Technologists and Pathologists' Assistants (3211)

Remarks

*Environmental Conditions

- For some occupations in this group, Hazards H5 (Radiation) may also apply.

3213 Veterinary and Animal Health Technologists and Technicians

Veterinary and animal health technologists and technicians provide technical support to veterinarians by caring for animals and assisting in the diagnosis and treatment of animal health disorders.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

374

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, L2*, H2, H3, H5, D3

EDUCATION/TRAINING

6, +, R

Examples of Job Titles

animal health technician
animal health technologist
laboratory animal technician
veterinarian assistant
veterinary technician
veterinary technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide technical assistance to veterinarians, and to handle, restrain and care for animals undergoing treatment and surgery; may perform a variety of office management and clerical duties
- **Verbal ability** to understand and use scientific terminology associated with veterinary medicine, and to counsel clients on animal health care
- **Numerical ability** to make calculations for laboratory experiments and tests
- **Spatial and form perception** to observe abnormalities in specimens and take precise readings from laboratory instruments
- **Motor co-ordination and finger and manual dexterity** to administer medications, treatments and vaccines as prescribed by veterinarians
- **Methodical interest in assisting** veterinarians before, during and after surgery, and by preparing surgical equipment, administering and monitoring anesthetics and cleaning up after surgery; in conducting specialized procedures such as animal identification and hoof trimming, and in preparing medications and vaccines under the direction of veterinarians
- **Objective interest in operating** laboratory equipment to produce X-rays radiographs, collect samples and perform other tests to assist in the diagnosis of animal health problems
- **Innovative interest in compiling** information from tests to assist in the diagnosis of animal health problems; and in conducting and assisting in laboratory research

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate
L2* Unregulated inside climate

Hazards
H2 Biological agents
H3 Equipment, machinery, tools
H5 Radiation

Discomforts
D3 Odours

Employment Requirements

Education/Training
6, +, R

- Completion of a two- or three-year animal health/veterinary technology college program is required.
- Successful completion of the Veterinary Technologist National Examination (VTNE) may be required in some employment settings.
- Registration with provincial animal health technologists' or veterinary technicians'/technologists' associations is available, but voluntary in all provinces.

Workplaces/Employers

Animal hospitals
Animal research laboratories
Animal shelters
Government
Pharmaceutical companies
Veterinary clinics
Zoos



Occupational Options

With experience, veterinary and animal health technologists and technicians may progress to supervisory positions.

Similar Occupations Classified Elsewhere

Pet Groomers and Animal Care Workers
(6483)

Wildlife biology technicians (in 2221
Biological Technologists and Technicians)

Remarks

*Environmental Conditions

- For some occupations in this group, Location L2 (Unregulated inside climate) may also apply.

3214.1 Respiratory Therapists

Respiratory therapists assist physicians in the diagnosis, treatment and care of patients with respiratory and cardiopulmonary disorders. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	2	1	1*

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

5, 6, 7, R

Examples of Job Titles

chief respiratory technologist
registered respiratory therapist (RRT)
respiratory therapist
respiratory therapy clinical instructor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist physicians in the diagnosis, treatment and care of patients with respiratory and cardiopulmonary disorders
- **Verbal ability** to supervise and train students and other respiratory therapists
- **Objective interest in precision working** with equipment to administer treatments such as oxygen, oxygen-air mixtures, humidified air and medications and to operate, monitor, maintain and test a variety of diagnostic and therapeutic equipment
- **Methodical interest in compiling** information by performing diagnostic tests such as arterial blood gas analysis and cardiopulmonary function tests; in assessing patients and performing or assisting with interventions such as airway maintenance, line insertions, inductions and intubations; in assisting with transportation of high-risk patients; and in performing artificial respiration and external cardiac massage
- **Innovative interest in speaking** with patients and their families when participating in home care programs for chronic respiratory patients and providing patient and family education; and in participating in research related to cardiac and pulmonary disorders

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
1	Relevant
Hearing	
2	Verbal interaction
Body Position	
2	Standing and/or walking
Limb Co-ordination	
1	Upper limb co-ordination
Strength	
1*	Limited

Environmental Conditions

Location	
L1	Regulated inside climate
Hazards	
H2	Biological agents

Employment Requirements

Education/Training
5, 6, 7, R

- Respiratory therapists require the completion of a two- to three-year college, hospital or university degree program in respiratory therapy, including clinical training.
- Licensing is required for respiratory therapists in Quebec, Ontario, Manitoba and Alberta.

Workplaces/Employers

Extended care facilities
Health units
Hospitals
Medical clinics
Public health centres
Respiratory home care companies

Occupational Options

Supervisory and instructor positions in this group require experience as a respiratory therapist.

Similar Occupations Classified Elsewhere

Other Medical Technologists and Technicians (Except Dental Health) (3219)

Other Technical Occupations in Therapy and Assessment (3235)

Remarks

Respiratory therapists may specialize in areas such as anaesthesia, critical care, pediatrics, cardiopulmonary diagnostics and respiratory home care.

*Physical Activities

- For some occupations in this group, Strength 2 (Light) may also apply.

3214.2 Clinical Perfusionists

Clinical perfusionists provide technical support to patients undergoing cardiac surgery and patients requiring cardio-respiratory support. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	2	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

cardiovascular perfusion supervisor
cardiovascular perfusionist
certified clinical perfusionist (CCP)
clinical perfusionist
perfusionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide technical support to patients undergoing cardiac surgery and patients requiring cardio-respiratory support
- **Verbal ability** to supervise and train students and other clinical perfusionists
- **Objective interest in precision working** with heart-lung machines and other devices to administer blood products, drugs and other substances as directed by cardiac surgeons and anesthetists; and in assembling, maintaining and operating extracorporeal circulation equipment, intra-aortic balloon pumps and other heart assist devices to support or temporarily replace patients' cardiopulmonary functions during open-heart surgery
- **Methodical interest in speaking** with medical personnel when assisting cardiac surgeons and anesthetists
- **Innovative interest in compiling** data by monitoring vital signs to maintain patients' physiological functions during cardiopulmonary surgery

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
2 Standing and/or walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H2 Biological agents

Employment Requirements

Education/Training
5+, 6+, 7+, R

- Clinical perfusionists require the completion of a respiratory therapy or registered nursing program with a minimum of one year of work experience as a respiratory therapist or registered nurse
and
completion of a college or university program in clinical perfusion, including clinical training.
- Licensing is required for respiratory therapists in Quebec, Ontario, Manitoba and Alberta.

Workplaces/Employers

Hospitals

Occupational Options

Supervisory and instructor positions in this group require experience as a clinical perfusionist.

Similar Occupations Classified Elsewhere

Other Medical Technologists and Technicians (Except Dental Health) (3219)

Other Technical Occupations in Therapy and Assessment (3235)

3214.3 Cardiopulmonary Technologists

Cardiopulmonary technologists assist physicians in the technical aspects of diagnosis and treatment of cardiovascular and pulmonary disease. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	2	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

cardiopulmonary technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist physicians in the technical aspects of diagnosis and treatment of cardiovascular and pulmonary disease
- **Verbal ability** to supervise and train students and other cardiopulmonary technologists and to provide technical support for research
- **Objective interest in precision working** to operate, monitor, maintain, calibrate and test diagnostic and therapeutic equipment and to determine patients' blood characteristics such as activated clotting time and oxygen saturation
- **Methodical interest in speaking** to advise physician of any changes in patient condition; in monitoring patients; in providing information and care for patients during tests; in preparing medications and administering inhaler and other treatments under supervision of cardiologist; and in assisting with the preparation of cardiac catheterization room, preparing specialized catheters and assisting cardiologists during catheterization
- **Innovative interest in compiling** data by performing diagnostic tests, such as pulmonary function and asthma stress, by assisting physicians with cardiac and cardiopulmonary stress tests and bronchoscopies and by performing analysis, programming and monitoring of implanted devices such as pacemakers and defibrillators during surgery

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
2 Standing and/or walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H2 Biological agents

Employment Requirements

Education/Training
5+, 6+, 7+, R

- Cardiopulmonary technologists require a minimum of a diploma in an allied health discipline such as respiratory therapy, nursing diploma or degree, or a degree in a related science and training through a post-diploma program or supervised on-the-job clinical training.
- Licensing is required for respiratory therapists in Quebec, Ontario, Manitoba and Alberta.
- Registration with the Canadian Association of Cardio-Pulmonary Technologists (CACPT) may be required.

Workplaces/Employers

Hospitals

Occupational Options

Supervisory and instructor positions in this group require experience as a cardiopulmonary technologist.

Similar Occupations Classified Elsewhere

Other Medical Technologists and Technicians (Except Dental Health) (3219)

Other Technical Occupations in Therapy and Assessment (3235)

3215.1 Radiological Technologists

Radiological technologists operate radiographic and other equipment to produce images of the human body for the diagnosis of disease and injury. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H5

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

mammography technician
radiography technologist
radiological technologist
X-ray technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate equipment to produce radiographs or anatomic images of the human body used by radiologists for the diagnosis of diseases and injuries
- **Verbal ability** to explain procedures to patients; may train and supervise students and supervise other radiological technologists
- **Objective interest in precision working** with X-ray, radiographic and fluoroscopic equipment, computerized tomography (CT) scanners, mammography units and magnetic resonance imaging (MRI) scanners; and in performing basic verification and quality control checks on radiographic and film processing equipment
- **Methodical interest in speaking** with radiologists to determine procedures to be performed; in providing appropriate care for patients during radiographic examinations; in recording and processing patient data; and in applying radiation protection measures
- **Innovative interest in compiling** patient data to assist in the diagnosis of diseases and injuries

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H5 Radiation

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Completion of a two- to three-year college, hospital or other approved program in diagnostic radiography *or* a bachelor of health sciences in radiography *and* a period of supervised practical training are required.
- Licensure with a regulatory body is required in all provinces.
- Certification by the Canadian Association of Medical Radiation Technologists is required in all provinces except Quebec.
- Experience as a medical radiation technologist is required for supervisors and instructors.

Workplaces/Employers

Cancer treatment centres
Clinics
Hospitals
Radiological laboratories

Occupational Options

There is no mobility among the three types of medical radiation technologists in the 3215 group without further training.

Similar Occupations Classified Elsewhere

Other medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Remarks

Radiological technologists may specialize in areas such as computerized tomography, angiography, mammography, magnetic resonance imaging, interventional radiology, dosimetry, stereotaxy or brachytherapy.

3215.2 Nuclear Medicine Technologists

Nuclear medicine technologists operate radiation therapy equipment to administer radiation treatment and produce images of the human body for the diagnosis of diseases. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	2	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H5

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

nuclear medicine clinical instructor
nuclear medicine technologist
supervisor, nuclear medicine technologists

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate radiation detection equipment and perform diagnostic procedures to assist nuclear medicine physicians in the diagnosis of diseases
- **Verbal ability** to explain procedures to patients; may train and supervise students and supervise other nuclear medicine technologists
- **Form perception** to perform diagnostic procedures using radioactive materials on biological specimens such as blood, urine and faeces
- **Objective interest in precision working** with radiation detection equipment such as gamma cameras, scanners, scintillation counters, tomodensitometers and ionization chambers; and in checking equipment to ensure proper operation
- **Methodical interest in speaking** with physicians to obtain instructions for preparing radiopharmaceuticals and administering them to patients or to biological samples; in providing appropriate care for patients during examinations; and in applying radiation protection measures
- **Innovative interest in compiling** data by recording and processing results of procedures for use by nuclear medicine physicians in the diagnosis of diseases

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2* Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H5 Radiation

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Completion of a two- to three-year college, hospital school or other approved program in nuclear medicine technology
or
a bachelor of health sciences in nuclear medicine
and
a period of supervised practical training are required.

- Licensure with a regulatory body is required in all provinces.

- Certification by the Canadian Association of Medical Radiation Technologists (CAMRT) is required in all provinces except Quebec.

- Experience as a medical radiation technologist is required for supervisors and instructors.

Workplaces/Employers

Cancer treatment centres

Clinics

Hospitals

Radiological laboratories

Occupational Options

There is no mobility among the three types of medical radiation technologists in the 3215 group without further training.

Similar Occupations Classified Elsewhere

Other medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Remarks

*Physical Activities

- For some occupations in this group, Strength 3 (Medium) may also apply.

3215.3 Radiation Therapists

Radiation therapists operate radiation therapy equipment to administer radiation treatments. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H5

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

clinical instructor, radiation therapy
radiation oncology technologist
radiation therapist
radiation therapy technologist (RTT)
radiotherapy technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist radiation oncologists and clinical physicists with preparation of radiation treatment plans and administer radiation treatments prescribed by radiation oncologists
- **Verbal ability** to explain procedures to patients and to advise patients regarding side effects of radiation; may train and supervise students and supervise other radiotherapy technologists
- **Objective interest in precision working** with radiation therapy equipment to administer treatments prescribed by radiation oncologists, and to help with the construction of devices such as plaster casts and acrylic moulds used for radiation treatments; and in checking radiation therapy equipment to ensure proper operation
- **Methodical interest in assisting** radiation oncologists and clinical physicists with administration of radiation treatment plans and preparation of sealed radioactive materials; and in monitoring patients' physical and psychological well-being during the entire course of treatments
- **Innovative interest in compiling** information to prepare and administer radiation treatments

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 1 Limited

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H5 Radiation

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Completion of a two- to three-year college, hospital or other approved program in radiation therapy
or
a bachelor of health sciences in radiation therapy
and
a period of supervised practical training are required.
- Licensure with a regulatory body is required in all provinces.
- Certification by the Canadian Association of Medical Radiation Technologists is required in all provinces except Quebec.
- Experience as a medical radiation technologist is required for supervisors and instructors.

Workplaces/Employers

Cancer treatment centres

Clinics

Hospitals

Radiological laboratories

Occupational Options

There is no mobility among the three types of medical radiation technologists in the 3215 group without further training.

Similar Occupations Classified Elsewhere

Other medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

3216 Medical Sonographers

Medical sonographers operate ultrasound equipment that produces and records images of various parts of the body to aid physicians in monitoring pregnancies and in diagnosing cardiac, ophthalmic, vascular and other medical disorders. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H1*, H2

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

diagnostic medical sonography instructor

medical sonographer

medical sonographers supervisor

registered diagnostic medical sonographer (RDMS)

ultrasound technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate ultrasound imaging equipment to produce images of those parts of the body requiring examination
- **Verbal ability** to prepare examination reports for physicians; may supervise and train students and other medical sonographers
- **Form perception** to monitor examinations by viewing images on video screens, to evaluate quality and consistency of diagnostic images and to make adjustments to equipment as required
- **Objective interest in operating** ultrasound imaging equipment and in recording, storing and processing scanned images by using camera unit connected to ultrasound equipment; and in performing quality control checks on ultrasound equipment to ensure proper operation and in performing minor repairs and adjustments
- **Methodical interest in speaking** with patients while observing and caring for them throughout examinations to ensure their safety and comfort
- **Innovative interest in compiling** information to aid in the monitoring of pregnancies and the diagnoses of cardiac, abdominal, ophthalmic, vascular and other disorders

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2* Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H1* Dangerous chemical substances
H2 Biological agents

Employment Requirements

Education/Training
5+, 6+, 7+, R

- Completion of a training program in a related field such as diagnostic radiography, nuclear medicine or nursing
and
completion of a one-year college or hospital-based program in diagnostic medical sonography and supervised practical training are required.
- Certification examinations by the American Registry of Diagnostic Medical Sonographers are usually required by employers.
- Registration with the Canadian Society of Diagnostic Medical Sonographers or a provincial counterpart is available and may be required by employers.

Workplaces/Employers

Clinics
Hospitals
Medical laboratories
Offices of medical specialists

Occupational Options

The Canadian Society of Diagnostic Medical Sonographers recognizes the certifying examinations of the American Registry of Diagnostic Medical Sonographers.

Similar Occupations Classified Elsewhere

Other technologists and technicians who operate diagnostic medical equipment (in 3218 *Electroencephalographic and Other Diagnostic Technologists, n.e.c.*)

Remarks

Medical sonographers may specialize in abdominal, cardiac, cerebral, obstetrical and gynecological, ophthalmic, intraluminal and peripheral vascular sonography. They may also specialize in adult or pediatric echocardiography or neurosonology.

*Physical Activities

- For this occupation, **Strength 3** (Medium) may also apply.

*Environmental Conditions

- For this occupation, **Hazards H1** (Dangerous chemical substances) may also apply.

3217 Cardiology Technologists

Cardiology technologists operate electrocardiogram and other electronic equipment to record the cardiac activity of patients to aid in the diagnosis and treatment of heart disease. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	2	4	4	3	3

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	2	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

6+, R

Examples of Job Titles

cardiac stress technologist

cardiology supervisor

cardiology technologist

electrocardiographic (ECG) technologist

electrocardiography technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate electrocardiogram and other electronic equipment to record the cardiac activity of patients
- **Verbal ability** to prepare reports for cardiologists; may supervise and train students, other cardiology technologists and nurses
- **Form perception** to detect irregularities in wave patterns while assessing cardiac activity
- **Objective interest in operating** electrocardiogram and other electronic equipment to record cardiac activity of patients; in checking cardiology equipment to ensure proper operation; and in reprogramming pacemakers according to standards
- **Methodical interest in speaking** with physicians and other health care professionals about test results; in performing cardiovascular procedures and tests, such as electrocardiograms, exercise tolerance tests, ambulatory monitoring and scanning of tapes, pacemaker analysis and follow-up, and echocardiogram; and in providing patients with care during procedures and tests; may administer certain drugs under direct supervision of physicians; may document and record pacemaker implant threshold measurements under direct supervision of cardiac surgeon
- **Innovative interest in compiling** and recording the results of cardiac activity to aid in the diagnosis of heart disease; may analyze tests

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 2 Standing and/or walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

6+, R

- Completion of a two-year college diploma in cardiology technology *and* supervised practical training are required.
- Registration with the Canadian Society of Cardiology Technologists is required in all provinces except in Quebec.

Workplaces/Employers

Clinics

Hospitals

Similar Occupations Classified Elsewhere

Cardiovascular perfusionists (in 3214 *Respiratory Therapists, Clinical Perfusionists and Cardio-Pulmonary Technologists*)

Other technologists and technicians who operate diagnostic medical equipment (in 3218 *Electroencephalographic and Other Diagnostic Technologists, n.e.c.*)

3218.1 Electroencephalographic (EEG) Technologists

Electroencephalographic (EEG) technologists operate electroencephalographic and other diagnostic equipment to assist physicians in diagnosing diseases, injuries and abnormalities. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	2	4	4	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

5+, 6+, R

Examples of Job Titles

- electroencephalographic (EEG) technologist
- evoked potential (EP) technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate diagnostic equipment to record the electrical activity of the brain and the cranial and central nervous systems
- **Verbal ability** to review patients' case history, to prepare reports for neurologists and to train and supervise students, technicians and other electroencephalographic technologists
- **Form perception** to detect irregularities in readings and observe physical changes in patients during tests
- **Objective interest in precision working** with diagnostic equipment such as electroencephalographs and evoked potential equipment; and in checking, calibrating and performing routine maintenance to diagnostic equipment
- **Methodical interest in compiling** data by taking notes on the recorded graph to identify interference such as poor electrode contact or patient movement; in preparing recordings for interpretation by neurologists; and in attaching diagnostic equipment to patients and ensuring patients' comfort and safety
- **Innovative interest in speaking** with patients to prepare them for procedures; and in assessing nature of problem to determine processes and tests required

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

- 5+, 6+, R

- Completion of secondary school is required.
- Electroencephalographic technologists require completion of a two-year college or hospital-based program in electrophysiology technology and supervised practical training.
- Registration with the Canadian Board of Electroencephalograph Technologists is available for electroencephalographic technologists and is usually required by employers.
- Electroencephalographic technologists who operate evoked potential equipment may require registration with the American Board of Registration of Electroencephalographic and Evoked Potential Technologists.

Workplaces/Employers

Clinics

Hospitals

Medical laboratories

Similar Occupations Classified Elsewhere

Cardiology Technologists (3217)

Medical Radiation Technologists (3215)

Medical Sonographers (3216)

Other medical technologists (in 3219
Other Medical Technologists and Technicians (Except Dental Health))

3218.2 Electromyography (EMG) Technologists

Electromyography (EMG) technologists operate electromyographic equipment to assist physicians in diagnosing diseases, injuries and abnormalities. This group includes supervisors and instructors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	2	4	4	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

5+, R

Examples of Job Titles

electromyography (EMG) technologist
electroneurodiagnostic (END) technologist
electroneurophysiology (ENP) technologist
neuroelectrophysiology technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate electromyographic equipment to conduct electrophysical nerve conduction velocity tests and to assist physicians in conducting electrophysiological tests such as muscle strength and repetitive stimulation
- **Verbal ability** to review patients' case history, to prepare reports of findings for physicians and to train and supervise students, technicians and other electromyography technologists
- **Form perception** to detect irregularities in readings and observe physical changes in patients during tests
- **Objective interest in precision working** with electromyographic equipment to conduct electrophysiological tests and electrophysiological nerve conduction velocity tests
- **Methodical interest in compiling** data to prepare recordings of findings for physicians to aid in the diagnoses of neuromuscular disorders; and in attaching electromyographic equipment to patients and ensuring patient's comfort and safety
- **Innovative interest in speaking** with patients to prepare them for tests; and in checking, calibrating and performing routine maintenance of equipment

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Hazards

H2 Biological agents

Employment Requirements

Education/Training

5+, R

- Completion of secondary school and additional specialized training is required.
- Electromyography technologists require two years of supervised practical training.
- Registration with the Canadian Society of Clinical Neurophysiologists/EMG Section is available for electromyography technologists and is usually required by employers.

Workplaces/Employers

Clinics

Hospitals

Medical laboratories

Similar Occupations Classified Elsewhere

Cardiology Technologists (3217)

Medical Radiation Technologists (3215)

Medical Sonographers (3216)

Other medical technologists (in 3219
Other Medical Technologists and Technicians (Except Dental Health))

3219.1 Dietary Technicians

Dietary technicians help dietitians and nutritionists plan and supervise food service operations.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

378

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6

Examples of Job Titles

dietary technician
food and nutrition technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist dietitians and nutritionists in planning and supervising food service operations
- **Clerical perception** to maintain inventory control and other operational records
- **Objective interest** in purchasing and requisitioning food, equipment and other supplies, in assisting with supervision of personnel who prepare and serve food, and in inspecting work areas and storage facilities to ensure sanitary standards
- **Innovative interest** in assisting dietitians with research in food, nutrition and food service systems
- **Methodical interest** in compiling data to plan menus and diets for individuals and groups under the direction of dietitians and nutritionists; and in helping patients complete menus

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6

- Dietary technicians require completion of a two- to three-year college program in dietary technology and supervised practical training.

Workplaces / Employers

Cafeterias
Extended care facilities
Fast food outlets
Hospitals
Nursing homes
Schools

Similar Occupations Classified Elsewhere

Other health care technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Technologists or technicians in therapy and assessment (in 3235 *Other Technical Occupations in Therapy and Assessment*)

3219.2 Ocularists

Ocularists design, fabricate and fit ocular prostheses.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	4	3	2	3

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, R

Examples of Job Titles

ocularist

ocularist technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design, fabricate and fit ocular prostheses and conformers; may design and fabricate implants
- **Spatial perception** to compare dimensions of eye-forms with those of the natural eye
- **Form perception** to develop impressions of patients' eye-sockets and mark positions of the iris on impressions
- **Finger dexterity** to paint the irises and pupils of artificial eyes
- **Objective interest in precision working** with fabrication and laboratory equipment to design, fabricate, clean and restore ocular prostheses; and in repairing and maintaining fabrication and laboratory equipment
- **Innovative interest in analyzing** data to design and fabricate artificial eyes that match natural eyes, and to fit patients with ocular prostheses; and in consulting with ophthalmologists concerning surgical insertion of ocular prostheses
- **Methodical interest in speaking** with patients concerning the loss of depth perception and the care and use of ocular prostheses

Physical Activities

- Vision
- 2 Near vision
- Colour Discrimination
- 1 Relevant
- Hearing
- 2 Verbal interaction
- Body Position
- 3 Sitting, standing, walking
- Limb Co-ordination
- 1 Upper limb co-ordination
- Strength
- 2 Light

Environmental Conditions

- Location
- L1 Regulated inside climate

Employment Requirements

- Education/Training
- 5, R
- Ocularists require completion of the ocularist training program of the American Society of Ocularists and supervised practical training or a five-year supervised practical training program under a certified ocularist.
 - Certification by the National Examining Board of Ocularists is usually required.

Workplaces/Employers

- Custom ocular prosthetic laboratories
- Self-employment

Similar Occupations Classified Elsewhere

- Other health care technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)
- Technologists or technicians in therapy and assessment (in 3235 *Other Technical Occupations in Therapy and Assessment*)

3219.3 Prosthetists and Orthotists

Prosthetists and orthotists design, fabricate, fit and repair prosthetic and orthotic devices.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	3	4	3	3	3

INTERESTS

OID

DATA PEOPLE THINGS (DPT)

231

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

6+, R

Examples of Job Titles

orthotist
prosthetist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design, fabricate and fit prosthetic and orthotic appliances such as artificial limbs, braces and supports
- **Spatial perception** to interpret sketches to fit, adjust and repair appliances
- **Objective interest in precision working** with equipment to make and modify plaster casts of areas to receive prostheses and orthoses, to fabricate prosthetic and orthotic appliances and to fit, adjust and repair appliances
- **Innovative interest in analyzing** physicians' specifications; and in examining and measuring patients to develop working sketches of appliances
- **Directive interest in supervising** and directing the activities of prosthetic and orthotic technicians; and in advising patients in the use and care of prostheses and orthoses

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

3 Medium

Environmental Conditions

Location

L1 Regulated inside climate

Hazards

H3 Equipment, machinery, tools

Employment Requirements

Education/Training

6+, R

- Prosthetists and orthotists require a two-year college program in prosthetics and orthotics technology and two years of supervised practical training.
- Certification by the Canadian Board of Certification of Prosthetists and Orthotists (CBCPO) may be required.
- Registration with the Canadian Association of Prosthetists and Orthotists (CAPO) may be required.

Workplaces/Employers

Clinics

Hospitals

Prosthetic device manufacturing companies

Prosthetics and orthotics laboratories

Self-employment

Similar Occupations Classified Elsewhere

Other health care technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Technologists or technicians in therapy and assessment (in 3235 *Other Technical Occupations in Therapy and Assessment*)

3219.4 Prosthetic and Orthotic Technicians

Prosthetic and orthotic technicians assemble, build and repair prosthetic and orthotic appliances.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	3	4	3	3	3

INTERESTS

OIM

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

orthotic technician

prosthetic technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assemble and build prosthetic and orthotic appliances according to drawings, measurements and plaster casts
- **Spatial perception** to examine working sketches and models of prosthetic and orthotic appliances
- **Objective interest in precision working** with machine and hand tools to repair, rebuild and modify prosthetic and orthotic appliances and orthopedic footwear and to fit, adjust and repair appliances
- **Innovative interest in analyzing** information taken from body and limb measurements to build prosthetic and orthotic appliances using a variety of materials such as metals, plastics and leathers
- **Methodical interest in speaking** with patients to ensure that prosthetic and orthotic appliances fit comfortably during trial fittings; and in building custom-designed components and appliances as directed

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools

Employment Requirements

Education/Training
5, 6, R

- Prosthetic and orthotic technicians usually require a two- to three-year college program in prosthetics and orthotics and one to two years of supervised practical training
or
completion of secondary school and up to four years of supervised practical training under a certified prosthetist or orthotist.
- Registration with the Canadian Association of Prosthetists and Orthotists (CAPO) may be required.

Workplaces / Employers

Clinics
Hospitals
Prosthetic device manufacturing companies
Prosthetics and orthotics laboratories

Occupational Options

Prosthetic and orthotic technicians may become certified prosthetists or orthotists with an additional two years experience as a registered prosthetic or orthotic technician and completion of certification examinations by the Canadian Board of Certification of Prosthetists and Orthotists.

Similar Occupations Classified Elsewhere

Other health care technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Technologists or technicians in therapy and assessment (in 3235 *Other Technical Occupations in Therapy and Assessment*)

3221 Denturists

Denturists examine patients and design, construct and repair removable dentures.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	4	3	2	2

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

6, +, R

Examples of Job Titles

dental mechanic

denturist

denturologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design and construct dentures and direct other workers to construct dentures
- **Spatial and form perception** to measure patients' jaws to determine size and shape of dentures required
- **Manual and finger dexterity** to construct and repair dentures; and to fabricate mouth protectors, anti-snoring prostheses and removable prostheses on implants; may prepare partial dentures
- **Methodical interest** in **speaking** with patients to ensure that dentures fit comfortably; and in relining and rebasing dentures
- **Objective interest** in **precision working** with dental and laboratory equipment; and in making impressions of patients' teeth, gums and jaws
- **Innovative interest** in **analyzing** information to design, fit and modify new dentures

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited
-

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools
-

Employment Requirements

Education/Training

6, +, R

- Completion of a two- or three-year college program in denturism/denturology is required.
 - An internship in a registered denture clinic may be required.
 - Licensing by a provincial or territorial regulatory body is required except in Prince Edward Island.
-

Workplaces/Employers

Clinics

Private practices

Similar Occupations Classified Elsewhere

Dental Assistants (3411)

Dental Technologists, Technicians and Laboratory Bench Workers (3223)

Dental Therapists and Dental Hygienists (3222)

Dentists (3113)

3222.1 Dental Hygienists

Dental hygienists provide dental hygiene treatment and information related to the prevention of diseases and disorders of the teeth and mouth.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

MOS

DATA PEOPLE THINGS (DPT)

321

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	3*	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3, H5

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

dental hygienist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide dental hygiene treatment and instruct patients in care of the teeth and mouth
- **Information** by consulting with dental assessments and taking and developing X-rays; may perform restorative and orthodontic procedures under the direction of dentists
- **Social interest** in instructing patients regarding oral hygiene procedures; and in consulting with dentists on patient care

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3* Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools
- H5 Radiation

Employment Requirements

Education/Training

5, 6, R

- Dental hygienists are required to complete a college program ranging from one to three years, or other approved program in dental hygiene recognized by the governing board within the province or territory of practice.
- Licensing by the appropriate provincial or territorial regulatory body is required for dental hygienists.

Workplaces/Employers

Clinics

Dentists' offices

Educational institutions

Government agencies

Hospitals

Private industry

Similar Occupations Classified Elsewhere

Dental Assistants (3411)

Dental Technologists, Technicians and Laboratory Bench Workers (3223)

Dentists (3113)

Denturists (3221)

Remarks

*Physical Activities

- For this occupation, **Body Position 4** (Other body positions) may also apply.

3222.2 Dental Therapists

Dental therapists carry out limited dental services related to the prevention and treatment of diseases and disorders of the teeth and mouth. They provide services in rural and remote communities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

MOS

DATA PEOPLE THINGS (DPT)

321

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	3*	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3, H5

EDUCATION/TRAINING

6, R

Examples of Job Titles

dental nurse

dental therapist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide limited dental services related to the prevention and treatment of diseases and disorders of the teeth and mouth
- **Verbal ability** to provide information on oral hygiene and disease prevention and supervise dental assistants in their health care functions
- **Methodical interest in compiling** information by conducting dental assessments and taking and developing X-rays
- **Objective interest in precision working** with dental equipment to take dental impressions, to remove stains and deposits from teeth to prevent tooth and root decay and to apply fluoride treatments; may fill cavities, extract teeth and replace portions of tooth crowns
- **Social interest in instructing** patients regarding oral hygiene procedures; and in consulting with dentists on patient care

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3* Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools
- H5 Radiation

Employment Requirements

Education/Training
6, R

- Dental therapists are required to complete the two-year dental therapy diploma program at the National School of Dental Therapy in Prince Albert, Saskatchewan, offered by Health Canada.
- Licensure is required for dental therapists in Newfoundland and Labrador, Saskatchewan, Nunavut, the Northwest Territories and the Yukon.

Workplaces/Employers

Federal government dental service establishment

Provincial or territorial government dental service establishment

Similar Occupations Classified Elsewhere

Dental Assistants (3411)

Dental Technologists, Technicians and Laboratory Bench Workers (3223)

Dentists (3113)

Denturists (3221)

Remarks

*Physical Activities

- For this occupation, **Body Position 4** (Other body positions) may also apply.

3223.1 Dental Technologists and Technicians

Dental technologists and technicians design, prepare and fabricate dentures and dental devices as prescribed by dentists and other specialists. This group includes supervisors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	3	3	2	2

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

dental technician
dental technician supervisor
dental technologist
registered dental technician
registered dental technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to fabricate and repair full and partial dentures and other dental devices such as bridges, inlays, clasps and bands
- **Spatial perception** to visualize the three-dimensional shapes of dental appliances from prescriptions and specifications
- **Form perception** to examine finished work to ensure that it conforms to specifications
- **Manual and finger dexterity** to use laboratory equipment and tools to fabricate dentures and dental devices
- **Methodical interest** in analyzing prescriptions to make and repair dentures and other dental devices; may perform supervisory and administrative functions for dental laboratories
- **Objective interest** in **precision working** to shape various substances into plates, clasps, bands, inlays, onlays, implants and bridgework; may train other dental technicians and dental laboratory bench workers
- **Innovative interest** in designing, fabricating and fitting dentures and dental devices; may consult with dentists or other specialists on problematic dental cases

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools

Employment Requirements

Education/Training

- 5, 6, R

- Completion of a college program in dental technology
or
four or more years of on-the-job training under the supervision of a dental technologist or technician are required.
- Registration with a regulatory body is required for dental technologists and technicians in all provinces except in Manitoba.

Workplaces/Employers

Dental laboratories

Similar Occupations Classified Elsewhere

Dental Assistants (3411)

Dental Therapists and Dental Hygienists (3222)

Denturists (3221)

3223.2 Dental Laboratory Bench Workers

Dental laboratory bench workers assist dental technologists and technicians in preparing and fabricating dentures and other dental devices.

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist dental technologists and technicians in the preparation and fabrication of dentures and other dental devices
- **Spatial and form perception** to prepare plaster models and moulds from dental impressions
- **Motor co-ordination and finger and manual dexterity** to prepare wax bite-blocks and impression trays, and to mould wax over denture set-ups to form full contours of artificial gums
- **Objective interest in precision working** to finish metal framework of dentures and polish and buff dentures to obtain natural finish
- **Methodical interest in copying** specifications to cast gold and metal alloys for bridges and denture bases, and to pack plastic material in moulds to form full or partial dentures
- **Innovative interest in assisting** technical personnel with preparation and fabrication of dentures, orthodontic bands from gold, silver, stainless steel and other metals, and other dental devices

Physical Activities

- Vision
- 1 Close visual acuity
- Colour Discrimination
- 0 Not relevant

- Hearing
- 1 Limited

- Body Position
- 2 Standing and/or walking

- Limb Co-ordination
- 1 Upper limb co-ordination

- Strength
- 1 Limited

Environmental Conditions

- Location
- L1 Regulated inside climate

- Hazards
- H3 Equipment, machinery, tools

Employment Requirements

- Education/Training
- 2
- Some secondary school education is required.
 - Up to two years of on-the-job training are usually required.

Workplaces/Employers

Dental laboratories

Occupational Options

Dental laboratory bench workers may progress to dental technologist and technician positions with training, experience and registration.

Similar Occupations Classified Elsewhere

- Dental Assistants (3411)
- Dental Therapists and Dental Hygienists (3222)
- Denturists (3221)

3231 Opticians

Opticians fit clients with prescription eyeglasses and contact lenses, assist clients in the selection of eyeglass frames, arrange for the production of eyeglasses and contact lenses, and mount lenses in eyeglass frames. This group includes student opticians and opticians who are managers of optical retail outlets.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	2	3

INTERESTS

OMS

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

contact lens fitter
contact lens technician
dispensing optician
ophthalmic dispenser
optician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine specifications for eyeglasses and contact lenses from prescriptions prepared by ophthalmologists and optometrists or by analyzing clients' eyeglasses and contact lenses and taking direct measurements
- **Verbal ability** to assist clients in selecting contact lenses and eyeglasses by advising on lens materials, frames, tints and anti-reflection coating
- **Finger dexterity** to manipulate small objects and instruments
- **Objective interest in operating** optical measuring devices to measure clients' eye curvatures, pupillary distances and bridge widths; and in using equipment to cut and edge lenses, fit lenses into frames, and grind and polish lenses
- **Methodical interest in compiling** prescriptive information to produce eyeglasses or arrange for the production of eyeglasses, to arrange for grinding and polishing of lenses, and to adjust finished eyeglasses to fit clients; may supervise or manage the activities of students and other opticians
- **Social interest in speaking** to clients to advise them on the correct use and care of contact lenses

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

5, 6, R

- Completion of a two- or three-year college program in ophthalmic dispensing, which includes an apprenticeship
or
completion of an Optician's Guild two-year ophthalmic dispensing correspondence course including practical experience is required.
- Completion of an Optician's Guild two-year contact lens technician correspondence course may also be required for contact lens technicians.
- Licensing by a regulatory body is required in all provinces.

Workplaces/Employers

Optical dispensing departments of retail establishments

Optical retail outlets

Self-employment

Similar Occupations Classified Elsewhere

Managers of optical retail outlets or of optical dispensing departments who are not opticians (in 0621 *Retail Trade Managers*)

Ophthalmologists (in 3111 *Specialist Physicians*)

Optical lab technicians (in 3414 *Other Aides and Assistants in Support of Health Services*)

Optometrists (3121)

3232.1 Midwives

Midwives provide care and advice to women during pregnancy, labour, birth and the post-natal period.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	4	2	2	2

INTERESTS

SID

DATA PEOPLE THINGS (DPT)

224

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

7+, R

Examples of Job Titles

midwife

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide full-course care to women and their babies during pregnancy, labour, birth and the post-natal period including monitoring the health of mother and baby, counselling and providing advice on diet, conducting routine deliveries and assisting in complicated deliveries
- **Verbal ability** to consult health care professionals when potentially abnormal conditions are identified during pregnancy
- **Motor co-ordination and finger and manual dexterity** to examine and care for newborn infants, and to examine patients to evaluate their condition and ensure that pregnancies are progressing normally
- **Social interest** in **analyzing** data for the purpose of counselling and educating women concerning diet and pre-natal health practices; and in reassuring patients and providing emotional support during labour and the post-natal period
- **Innovative interest** in **operating** medical equipment to examine patients and monitor fetuses during labour; and in conducting normal deliveries
- **Directive interest** in **instructing** patients on how to care for themselves and their infants; and in providing ongoing advice and support

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

7+, R

- Midwives require appropriate training which may be acquired through a university degree or its equivalent and a period of supervised practical training.
- Registration with a regulatory body is required for midwives in Ontario, Alberta and British Columbia.

Workplaces/Employers

Birthing centres

Hospitals

Private practices

Similar Occupations Classified Elsewhere

Naturopathic and osteopathic physicians
(in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

Registered Nurses (3152)

3232.2 Acupuncturists

Acupuncturists are practitioners of natural healing who provide an alternative form of health care to patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	3	3	3

INTERESTS

SIM

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

acupuncturist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose and treat patients' diseases, physiological disorders and injuries using acupuncture and other therapies
- **Verbal ability** to arrange, through patients' physicians, for additional tests, analyses and X-rays, and to review patients' medical records
- **Motor co-ordination and manual dexterity** to administer treatments by inserting acupuncture needles and through the use of heat, pressure, electric current or rays of light
- **Social interest in co-ordinating** information about patients' general physical conditions obtained from physicals and medical tests, and by observing and interviewing patients
- **Innovative interest in precision working** to insert acupuncture needles at precise points to correct energy imbalances in the body to treat disorders, relieve pain, and improve and maintain health
- **Methodical interest in mentoring** patients by diagnosing and treating disorders and injuries using the established techniques and methods of acupuncture and other therapies

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

5, 6, R

- Acupuncturists require completion of a training program in acupuncture, may require some university undergraduate studies in science or training in a related health care discipline and may also require work experience under the supervision of a registered acupuncturist.
- Registration with a regulatory body is required for acupuncturists in Quebec, Alberta and British Columbia.

Workplaces/Employers

Clinics

Private practices

Occupational Options

Chinese medical practitioners may practise as acupuncturists.

Similar Occupations Classified Elsewhere

Massage therapists (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Naturopathic and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3232.3 Chinese Medical Practitioners

Chinese medical practitioners are practitioners of natural healing who provide an alternative form of health care to patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	4	3

INTERESTS

SID

DATA PEOPLE THINGS (DPT)

101

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

5, 6, 7

Examples of Job Titles

Chinese medical practitioner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose patients' diseases, physiological disorders and injuries and provide treatment using raw herbs and other medicines, dietary supplements and acupuncture
- **Social interest** in co-ordinating information from patient interviews, examinations and medical tests to diagnose conditions
- **Innovative interest** in precision working with medicines, dietary supplements and acupuncture equipment to treat disorders
- **Directive interest** in mentoring patients by diagnosing diseases and providing traditional Chinese medicine practices as an alternative form of health care and treatment

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

- 5, 6, 7

- Chinese medical practitioners usually require completion of a program in traditional Chinese medicine which is available from certain medical schools abroad
or
some post-secondary education and a diploma in traditional Chinese medicine from a private institute.

Workplaces/Employers

Clinics

Private practices

Occupational Options

Chinese medical practitioners may practise as acupuncturists.

Similar Occupations Classified Elsewhere

Massage therapists (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Naturopathic and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3232.4 Herbalists

Herbalists are practitioners of natural healing who provide an alternative form of health care to patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	3	4	3

INTERESTS

SID

DATA PEOPLE THINGS (DPT)

227

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

4+, 5+

Examples of Job Titles

herbalist

herborist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to advise patients on the use of herbs to treat conditions such as arthritis, rheumatism, asthma, skin disorders and stomach ailments
- **Social interest** in analyzing information provided by patients concerning health problems and disorders
- **Innovative interest** in handling varieties of herbs used as sources of healing; may sell these herbs
- **Directive interest** in instructing patients on the proper use of herbs to treat disorders

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

4+, 5+

- Completion of courses or a training program specific to the occupation and some supervised practical training are usually required.

Workplaces/Employers

Clinics

Health food stores

Private practices

Similar Occupations Classified Elsewhere

Massage therapists (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Naturopathic and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3232.5 Homeopaths

Homeopaths are practitioners of natural healing who provide an alternative form of health care to patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	3	4	3

INTERESTS

SID

DATA PEOPLE THINGS (DPT)

201

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

4+, 5+

Examples of Job Titles

homeopath
homeopathist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to diagnose and treat patients' illnesses by administering, in chemical or herbal form, a small dosage of the illness itself or by suggesting lifestyle changes
- **Social interest** in **analyzing** information provided by patients concerning illnesses and health problems
- **Innovative interest** in **precision working** with chemical and herbal forms of illnesses to administer small dosages to patients for treatment purposes
- **Directive interest** in **mentoring** patients by providing homeopathic health care and by suggesting lifestyle changes

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

4+, 5+

- Completion of courses or a training program in homeopathic medicine and some supervised practical training are usually required.

Workplaces/Employers

Clinics

Private practices

Similar Occupations Classified Elsewhere

Massage therapists (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Naturopathic and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3232.6 Reflexologists

Reflexologists are practitioners of natural healing who provide an alternative form of health care to patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	3	3	3

INTERESTS

SIM

DATA PEOPLE THINGS (DPT)

274

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 5+

Examples of Job Titles

reflexologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply gentle finger pressure to specific spots on clients' hands and feet to promote relaxation and improved health and well-being
- **Social interest** in analyzing information provided by patients to determine appropriate pressure points for applying reflexology techniques
- **Innovative interest** in manipulating specific areas of patients' hands and feet by applying finger pressure to appropriate spots to promote well-being
- **Methodical interest** in assisting patients with their health conditions by providing an alternative form of health care through the application of reflexology methods and techniques

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+, 5+

- Completion of courses or a training program specific to the occupation and some supervised practical training are usually required.

Workplaces/Employers

Clinics

Health clubs

Private practices

Spas

Similar Occupations Classified Elsewhere

Massage therapists (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Naturopathic and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3232.7 Rolfers

Rolfers are practitioners of natural healing who provide an alternative form of health care to patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	3	3	3

INTERESTS

SIM

DATA PEOPLE THINGS (DPT)

274

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 5+

Examples of Job Titles

rolfer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess extent of treatment required to reduce chronic pain and stress in various parts of the body
- **Social interest** in analyzing information provided by patients to determine areas and body structure requiring realignment and appropriate techniques to use
- **Methodical interest** in assisting patients with their health problems by providing an alternative form of health care through the systematic manipulation techniques used in rolfing
- **Innovative interest** in manipulating various parts of the body, such as the legs and shoulders, to realign body structures as a form of treatment for reducing chronic pain and stress

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

4 Other body positions

Limb Co-ordination

1 Upper limb co-ordination

Strength

3 Medium

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+, 5+

- Completion of courses or a training program specific to the occupation and some supervised practical training are usually required.

Workplaces/Employers

Clinics

Health clubs

Private practices

Spas

Similar Occupations Classified Elsewhere

Massage therapists (in 3235 *Other Technical Occupations in Therapy and Assessment*)

Naturopathic and osteopathic physicians (in 3123 *Other Professional Occupations in Health Diagnosing and Treating*)

3233.1 Licensed Practical Nurses

Licensed practical nurses provide nursing care usually under the direction of medical practitioners, registered nurses or other health team members.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	3	3	3

INTERESTS

MSO

DATA PEOPLE THINGS (DPT)

324

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	3	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, D3

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

- certified nursing assistant (CNA)
- licensed nursing assistant
- licensed practical nurse (L.P.N.)
- registered nursing assistant (R.N.A.)
- registered practical nurse (R.P.N.)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide nursing services, within defined scope of practice, to patients based on patient assessment and care planning procedures
- **Methodical interest** in **compiling** information by monitoring patients' progress and monitoring established respiratory and intravenous therapy; in evaluating effectiveness of nursing interventions; and in administering medication and observing and documenting therapeutic effects
- **Objective interest** in **operating** medical equipment to perform nursing interventions such as taking vital signs, applying aseptic techniques including sterile dressing, ensuring infection control, monitoring nutritional intake and conducting specimen collection
- **Social interest** in **instructing** patients and their families by providing safety and health education; in providing pre-operative and post-operative personal and comfort care; and in consulting with members of the healthcare team

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 3 Other sound discrimination

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Discomforts

- D3 Odours

Employment Requirements

Education/Training

- 5, 6, R

- Completion of a vocational, college or other approved program for licensed practical nurses is required.
- Registration with a regulatory body is required in all provinces and territories.
- Completion of the Canadian Practical Nurse Registration Examination is required in all provinces and territories except Quebec.

Workplaces/Employers

Clinics
Community health centres
Companies
Doctors' offices
Extended care facilities
Hospitals
Nursing homes
Private homes
Rehabilitation centres

Occupational Options

Working under the direction of a medical practitioner or registered nurse is not required for licensed practical nurses in all jurisdictions.

Similar Occupations Classified Elsewhere

Home health aide (in 6471 *Visiting Homemakers, Housekeepers and Related Occupations*)

Nurse Aides, Orderlies and Patient Service Associates (3413)

3233.2 Operating Room Technicians

Operating room technicians assist registered nurses, physicians and other health team members working in operating rooms.

Descriptor Profile		
Main Characteristics		
Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:		
▪ General learning ability to prepare patients and operating rooms for surgery, and to assist surgical team during surgery	▪ Methodical interest in copying information to prepare patients for surgery by washing, shaving and sterilizing operative areas, and to clean and sterilize operating rooms and instruments	▪ Objective interest in handling medical equipment by laying out instruments, setting up equipment and passing instruments to surgeons
		▪ Social interest in assisting surgeons and surgical teams with gowns, gloves and instruments during operations

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
2	Standing and/or walking

Limb Co-ordination	
1	Upper limb co-ordination

Strength	
2	Light

Environmental Conditions

Location	
L1	Regulated inside climate

Hazards	
H2	Biological agents

Employment Requirements

Education/Training
5+, 6+, R

- Completion of a vocational, college or other approved program for licensed practical nurses is required.
- Registration with a regulatory body is required in all provinces and territories.
- Completion of the Canadian Practical Nurse Registration Examination is required in all provinces and territories except Quebec.
- Operating room technicians require either additional academic training in operating room techniques or on-the-job training.

Workplaces/Employers

Clinics
Community health centres
Doctors' offices
Extended care facilities
Hospitals
Nursing homes
Rehabilitation centres

Similar Occupations Classified Elsewhere

Home health aide (in 6471 *Visiting Homemakers, Housekeepers and Related Occupations*)
Nurse Aides, Orderlies and Patient Service Associates (3413)

3234 Ambulance Attendants and Other Paramedical Occupations

This group includes workers who provide pre-hospital emergency medical care to patients and transport them to hospitals and other medical facilities for further medical care. This group includes supervisors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	3	3	3

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

374

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	3	4	2	4

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, L3, L4, H2, H3, D1

EDUCATION/TRAINING

4+, 5+, 6+, R

Examples of Job Titles

advanced care paramedic
ambulance attendant
critical care paramedic
emergency medical attendant (EMA)
emergency medical care assistant
emergency medical responder
emergency medical technician (EMT)
emergency medical technician, paramedic (EMT – P)
emergency medical technologist, paramedic
paramedic
primary care paramedic
supervisor, ambulance services

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess extent of patients' injuries and illnesses, provide pre-hospital emergency care and transport patients by air, land and water to hospitals and other medical facilities
- **Verbal ability** to document and record the nature of injuries and treatments provided; may train and supervise other workers
- **Innovative interest in compiling** information to assess trauma victims, patients with respiratory diseases and stress, overdose and poisoning victims, industrial accident victims and other ill and injured individuals to determine emergency medical treatment
- **Methodical interest in assisting** patients by administering pre-hospital emergency care such as cardiopulmonary resuscitation (CPR), oxygen, bandaging and splinting, and in assisting hospital personnel with medical treatments if necessary; may assist with triage of emergency patients
- **Objective interest in operating** equipment in order to establish and maintain intravenous treatment (IV), apply adjunctive equipment for ventilation and circulatory complications, administer medications and provide other advanced emergency treatment to patients; and in maintaining ambulances and emergency care equipment and supplies

Physical Activities

Vision
4 Total visual field

Colour Discrimination
1 Relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
4 Heavy

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside
L4 In a vehicle or cab

Hazards
H2 Biological agents
H3 Equipment, machinery, tools

Discomforts
D1 Noise

Employment Requirements

Education/Training
4+, 5+, 6+, R

- Completion of a college, hospital-based or other recognized program in emergency medical technology ranging from two to twenty-four months or courses in emergency health care and supervised practical training are required.

- Licensure according to type and length of training by a regulatory body is required in Prince Edward Island, Ontario, Saskatchewan, Alberta and British Columbia.

- Those operating emergency vehicles require an appropriate class of licence.

Workplaces/Employers

Fire departments
Government departments and agencies
Hospitals
Manufacturing firms
Mining companies
Private ambulance services

Similar Occupations Classified Elsewhere

Other Assisting Occupations in Support of Health Services (3414)

3235.1 Audio Prosthetists

Audio prosthetists perform technical therapy and assessment functions to assist audiologists.

Descriptor Profile		
Main Characteristics Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties: ▪ General learning ability to examine patients and determine the appropriate type of hearing aid they require	▪ Methodical interest in analyzing data to fit and adjust hearing aids	
	▪ Social interest in speaking with patients to ensure comfort and fit of hearing aids during follow-up examinations and readjustments	▪ Objective interest in operating equipment to take ear impressions for use in the manufacture of audio prostheses; may test patients' hearing

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, R

- Audio prosthetists require completion of a two- or three-year college program in audio prosthetics, including a period of supervised training.
- Licensure with a regulatory body is required for audio prosthetists in Quebec, Alberta and British Columbia.

Workplaces/Employers

Clinics

Educational institutions

Extended care facilities

Hospitals

Private practices of audiologists

Rehabilitation centres

Similar Occupations Classified Elsewhere

Medical Technologists and Technicians (Except Dental Health) (321)

Other Assisting Occupations in Support of Health Services (3414)

Other Technical Occupations in Health Care (Except Dental) (323)

3235.2 Audiometric Assistants

Audiometric assistants assist audiologists in assessing and examining patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	4	3	3

INTERESTS

MSO

DATA PEOPLE THINGS (DPT)

364

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 6

Examples of Job Titles

audiology technician
audiometric assistant
audiometric technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to administer, under the supervision of audiologists, tests such as speech reception and speech discrimination to determine patients' hearing thresholds
- **Methodical interest** in **compiling** and recording test results
- **Social interest** in **speaking** with patients to instruct them in testing and examination procedures
- **Objective interest** in **operating** audiometers to administer hearing tests; and in fitting earphones and bone conductors on patients

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 4, 6

- Audiometric assistants require completion of a 12- to 18-month college program in communicative disorders
or
some post-secondary education and on-the-job training.

Workplaces/Employers

Clinics

Educational institutions

Extended care facilities

Hospitals

Private practices of audiologists

Rehabilitation centres

Similar Occupations Classified Elsewhere

Medical Technologists and Technicians (Except Dental Health) (321)

Other Assisting Occupations in Support of Health Services (3414)

Other Technical Occupations in Health Care (Except Dental) (323)

3235.3 Communication Assistants

Communication assistants assist speech-language pathologists with remedial programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	4	3	3

INTERESTS

MSO

DATA PEOPLE THINGS (DPT)

377

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 6

Examples of Job Titles

communication assistant
speech technician
speech therapist aide
speech therapy aide

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to carry out remedial programs, under the supervision of speech-language pathologists, to rehabilitate patients with communicative disorders
- **Methodical interest** in **compiling** information on patients' progress
- **Social interest** in **assisting** patients in remedial programs by instructing them on ways to improve communication skills
- **Objective interest** in **handling** equipment and materials used for remedial programs

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 4, 6

- Communication assistants require completion of a 12- to 18-month college program in communicative disorders
or
some post-secondary education and on-the-job training.

Workplaces/Employers

Clinics

Educational institutions

Extended care facilities

Hospitals

Private practices of speech-language pathologists

Rehabilitation centres

Similar Occupations Classified Elsewhere

Medical Technologists and Technicians (Except Dental Health) (321)

Other Assisting Occupations in Support of Health Services (3414)

Other Technical Occupations in Health Care (Except Dental) (323)

3235.4 Massage Therapists

Massage therapists administer massage treatments to correct physical disorders and provide massage therapy to treat medical conditions and injuries and to maintain wellness.

</

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to administer massage treatments to patients through soft tissue manipulation, hydrotherapy, remedial exercise programs and client self-help programs
- **Verbal ability** to assess patients' symptoms and capabilities by observation and questions, and to refer to physicians' prescriptions to determine physical disorders and required treatments
- **Motor co-ordination** and **finger** and **manual dexterity** to apply lubricants and rubs, and knead, stroke and tap affected areas with hands to stimulate the action of soft tissues and joints of the body
- **Methodical interest** in analyzing information obtained from tests and health care professionals to develop treatment plans; in providing courses of treatment for medical conditions, injuries and for maintenance of wellness; and in maintaining records of patients' treatments
- **Social interest** in assisting patients by providing treatment, prescribing remedial exercises and discussing follow-up care; may work with other health care professionals when appropriate
- **Objective interest** in operating equipment to administer treatments; in conducting range of motion and muscle testing; and in providing massage therapy to treat medical conditions and injuries

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+, 6+, R

- Massage therapists usually require completion of an 18- to 24-month program in massage therapy from an accredited school and supervised practical training.
- Registration with a regulatory body is required for massage therapists in Ontario and British Columbia.

Workplaces/Employers

Clinics
Educational institutions
Extended care facilities
Hospitals
Hotels
Rehabilitation centres
Resorts
Self-employment
Spas

Similar Occupations Classified Elsewhere

Medical Technologists and Technicians (Except Dental Health) (321)

Other Technical Occupations in Health Care (Except Dental) (323)

Physical therapy aides or chiropractic aides (in 3414 *Other Assisting Occupations in Support of Health Services*)

3235.5 Ophthalmic Medical Assistants

Ophthalmic medical assistants assist ophthalmologists in assessing, examining and treating patients.

Profile Summary										Examples of Job Titles	
APTITUDES											ophthalmic assistant
G	V	N	S	P	Q	K	F	M			ophthalmic technician
3	3	3	3	3	3	4	3	3			ophthalmic technologist
INTERESTS											
MSO											
DATA PEOPLE THINGS (DPT)											
374											
PHYSICAL ACTIVITIES (PA)											
V	C	H	B	L	S						
2	0	2	3	1	1						
ENVIRONMENTAL CONDITIONS (EC)											
L1											
EDUCATION/TRAINING											
5, 6											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to operate ophthalmic testing and measuring instruments to help ophthalmologists assess patients' vision
- **Methodical interest** in compiling information to make preliminary assessments of patients' vision, and to record patients' test results, treatments and case histories
- **Social interest** in assisting ophthalmologists with examinations, treatments and office surgery; and in instructing patients in insertion, removal, cleaning and storage of contact lenses
- **Objective interest** in operating ophthalmic testing and measuring instruments and equipment to administer eye drops, ointments and medications as directed by ophthalmologists

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 5, 6

- Ophthalmic medical assistants require completion of a nine month college program or a 24- to 30-month hospital-based training program in ophthalmic techniques and procedures *or* a minimum of one year of supervised practical training under an ophthalmologist and completion of an approved ophthalmic assistant home study program.

Similar Occupations Classified Elsewhere

Medical Technologists and Technicians (Except Dental Health) (321)

Optical/ophthalmic laboratory technicians and assistants (in 3414 *Other Assisting Occupations in Support of Health Services*)

Other Technical Occupations in Health Care (Except Dental) (323)

Workplaces/Employers

Clinics

Educational institutions

Hospitals

Private practices of ophthalmologists

3235.6 Physical Rehabilitation Technicians

Physical rehabilitation technicians assist physiotherapists in treating patients with injuries and physical disabilities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	4	3	3

INTERESTS

MSO

DATA PEOPLE THINGS (DPT)

374

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6

Examples of Job Titles

physical rehabilitation technician
physiotherapy technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to carry out, under a physiotherapist's direction, treatment programs such as massage, thermotherapy, traction and hydrotherapy to rehabilitate patients with injuries and physical impairments
- **Methodical interest** in **compiling** information on treatments to maintain patients' records
- **Social interest** in **assisting** patients by providing therapeutic treatments and fitting them with crutches, splints and other devices
- **Objective interest** in **operating** equipment to carry out treatment programs as directed by physiotherapists

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

3 Medium

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6

- Physical rehabilitation technicians require completion of a three-year college program in physical rehabilitation therapy and supervised practical training.

Workplaces/Employers

Clinics

Educational institutions

Extended care facilities

Hospitals

Private practices of physiotherapists

Rehabilitation centres

Similar Occupations Classified Elsewhere

Medical Technologists and Technicians (Except Dental Health) (321)

Other Technical Occupations in Health Care (Except Dental) (323)

Physical therapy aides or chiropractic aides (in 3414 *Other Assisting Occupations in Support of Health Services*)

3411 Dental Assistants

Dental assistants assist dentists during the examination and treatment of patients and perform clerical functions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	3	4	3	3	3

INTERESTS

MSO

DATA PEOPLE THINGS (DPT)

574

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3, H5

EDUCATION/TRAINING

4, 5, 6, R

Examples of Job Titles

certified dental assistant
certified intra-oral dental assistant
dental assistant
registered dental assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to prepare patients for dental examinations and to assist dentists during the examinations
- **Verbal ability** to understand dental terminology, schedule patient appointments and record dental procedures performed
- **Methodical interest in copying** information to record dental procedures performed, order dental and office supplies, prepare dental instruments and filling materials, and to invoice patients; and in taking preliminary impressions for diagnostic casts
- **Social interest in assisting** dentists in patient care and treatment; and in educating patients concerning oral hygiene
- **Objective interest in operating** equipment to sterilize and maintain instruments and equipment; in taking and developing X-rays, polishing teeth and clinical crowns and applying fluoride and sealant, and to fabricating temporary crowns and restorations

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H2 Biological agents
H3 Equipment, machinery, tools
H5 Radiation

Employment Requirements

Education/Training
4, 5, 6, R

- Completion of a three-month to one-year college or other program in dental assistance
or
completion of secondary school with on-the-job training is required.
- Licensing is not mandatory, but is required to perform intra-oral duties in all provinces except in Quebec.

Workplaces/Employers

Dentists' offices
Educational institutions
Government

Occupational Options

In most provinces, there are two levels of dental assistants: Level I – chair-side assistant and Level II – intra-oral assistant. Progression from Level I to Level II is possible with appropriate training and licensure.

Similar Occupations Classified Elsewhere

Dental Technologists, Technicians and Laboratory Bench Workers (3223)

Dental Therapists and Dental Hygienists (3222)

3413 Nurse Aides, Orderlies and Patient Service Associates

Nurse aides, orderlies and patient service associates assist nurses, hospital staff and physicians in the basic care of patients.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	4	4	4	4	4	3

INTERESTS

SMo

DATA PEOPLE THINGS (DPT)

574

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, D3

EDUCATION/TRAINING

2, 4, 5, 6

Examples of Job Titles

health care aide
hospital attendant
long term care aide
nurse aide
nursing attendant
orderly
patient care aide
patient service associate
psychiatric aide

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide basic patient care in establishments such as hospitals, nursing homes and clinics
- **Manual dexterity** to bathe, dress and groom patients; serve meal trays and feed or assist in feeding of patients; lift, turn and massage patients; and shave patients before surgery
- **Social interest** in **assisting** hospital staff by carrying messages, reports, requisitions and specimens from one department to another; in providing comfort to patients by answering call signals, making beds and maintaining patients' rooms; in assisting patients with menu selection; and in setting-up and providing leisure activities for patients, and accompanying patients on outside recreational activities
- **Methodical interest** in **copying** routine procedures to provide basic patient care, supervise patients' exercise routines, transport patients in wheelchairs and stretchers, and supply and empty bed pans; in maintaining inventory of supplies; in reporting or recording fluid intake or output; and in observing or monitoring patients' status and document patient care on charts
- **Objective interest** in **operating** medical equipment to take blood pressure, temperature and pulse; in collecting specimens such as urine, faeces and sputum; in administering suppositories, colonic irrigations and enemas; and in performing other procedures as directed by nursing and hospital staff; may perform maintenance tasks such as assist with the set-up and maintenance of traction equipment, clean or sterilize equipment, maintain and repair equipment and assemble, set-up and operate equipment

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Discomforts

- D3 Odours

Employment Requirements

Education/Training

- 2, 4, 5, 6

- Some secondary school education and on-the-job training
or
a nursing aide or health care aide college or private institutional program, or a college nursing orderly program and supervised practical training are required.
- Some health care facilities may also require completion of specialized courses such as CPR (cardiopulmonary resuscitation), first aid and food handling/sterile processing.

Workplaces/Employers

Health care facilities

Hospitals

Nursing homes

Similar Occupations Classified Elsewhere

Licensed Practical Nurses (3233)

Other Aides and Assistants in Support of Health Services (3414)

Personal care attendants – home care
(in 6471 *Visiting Homemakers, Housekeepers and Related Occupations*)

3414.1 Orthopedic Technologists

Orthopedic technologists assist orthopedic surgeons in the treatment of orthopedic diseases and injuries.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	4	4	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

574

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, H3, D3

EDUCATION/TRAINING

4, 6, R

Examples of Job Titles

cast room technician
orthopedic technologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to assist orthopedic surgeons in the treatment of orthopedic diseases and injuries and to instruct patients and their families and other health care professionals with respect to orthopedic matters
- **Methodical interest in copying** established procedures for cleaning and dressing wounds
- **Objective interest in operating** equipment to construct splints and trim and remove casts; and in applying and adjusting casts, splints, bandages and other orthopedic devices, and in removing sutures and pins
- **Innovative interest in assisting** in the application, maintenance and adjustment of traction equipment; and in repairing orthopedic equipment

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium
-

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents
- H3 Equipment, machinery, tools

Discomforts

- D3 Odours
-

Employment Requirements

Education/Training

- 4, 6, R

- Orthopedic technologists usually require completion of secondary school *and* several months of on-the-job training *or* a college orthopedic technologist program.
 - Registration with the Canadian Society of Orthopaedic Technologists is available and usually required by employers.
-

Workplaces/Employers

Clinics

Hospitals

Similar Occupations Classified Elsewhere

Medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Operating room technicians (in 3233 *Licensed Practical Nurses*)

Other Technical Occupations in Therapy and Assessment (3235)

3414.2 Therapy Assistants

Therapy assistants perform a variety of support functions to assist health care professionals and other health care staff.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	4	4	3

INTERESTS

MSo

DATA PEOPLE THINGS (DPT)

577

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 6

Examples of Job Titles

chiropractic assistant
occupational therapist aide
physiotherapy assistant
rehabilitation assistant
therapy assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand instructions to assist health care professionals such as physiotherapists, occupational therapists and chiropractors
- **Verbal ability** to communicate with patients
- **Clerical perception** to perceive pertinent details in patient records; may perform routine office functions
- **Manual dexterity** to prepare and lay out work materials and supplies and to clean equipment
- **Methodical interest** in **copying** information to assist patients as directed by health care professionals
- **Social interest** in **assisting** patients by helping elderly and incapacitated patients to dress and undress, by accompanying patients to treatment rooms and by supporting them in other activities
- **Objective interest** in **handling** to prepare and maintain work materials and supplies; and in assisting patients in the use of therapeutic equipment

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

4 Other body positions

Limb Co-ordination

1 Upper limb co-ordination

Strength

2* Light

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4, 6

- Health care courses or short-term college programs related to the work of medical assistants, such as occupational therapy assistant/physiotherapy assistant programs, are available and may be required by employers.

Workplaces/Employers

Clinics

Hospitals

Offices of health care professionals

Occupational Options

Occupational therapy assistants (OTA) and physiotherapy assistants (PTA) receive training through a single OTA/PTA program in some community colleges.

Similar Occupations Classified Elsewhere

Medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Other Technical Occupations in Therapy and Assessment (3235)

Remarks

*Physical Activities

- For some occupations in this group, Strength 3 (Medium) may also apply.

3414.3 Optical/Ophthalmic Laboratory Technicians and Assistants

Optical and ophthalmic laboratory technicians and assistants assemble eyeglasses according to prescriptions written by ophthalmologists and optometrists.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	4	4	4	4	4	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

571

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

4

Examples of Job Titles

lens grinder, ophthalmic
ophthalmic laboratory technician – retail
optical laboratory assistant
optometrist assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assemble eyeglasses according to prescriptions received
- **Manual and finger dexterity** to grind, cut polish and edge lenses for eyeglasses; and to make minor repairs for customers such as replacing frame screws and straightening frames
- **Objective interest in precision working** to operate laboratory equipment; and in maintaining and repairing optical laboratory equipment or machinery
- **Methodical interest in copying** established procedures to assemble eyeglasses according to precise specifications; and in fitting lenses into frames
- **Innovative interest in assisting** clients by suggesting improvements and recommending minor repairs to eyeglasses

Physical Activities

- Vision
2 Near vision
- Colour Discrimination
0 Not relevant
- Hearing
2 Verbal interaction

- Body Position
3 Sitting, standing, walking

- Limb Co-ordination
1 Upper limb co-ordination

- Strength
2 Light

Environmental Conditions

- Location
L1 Regulated inside climate

- Hazards
H3 Equipment, machinery, tools

Employment Requirements

- Education/Training
4
- Completion of secondary school and several months of on-the-job training are usually required.

Workplaces/Employers

- Optical retail stores and laboratories
Optometrists' offices

Similar Occupations Classified Elsewhere

- Eyeglass frame polishers (in 9517 *Other Products Machine Operators*)
- Medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)
- Ophthalmic medical assistants (in 3235 *Other Technical Occupations in Therapy and Assessment*)
- Opticians* (3231)

3414.4 Pharmacy Assistants

Pharmacy assistants provide support services and assistance to pharmacists.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	4	4	3	4	3	3

INTERESTS

MIO

DATA PEOPLE THINGS (DPT)

377

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 6

Examples of Job Titles

pharmacy assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability and clerical perception** to assist pharmacists by compounding, packaging and labelling pharmaceutical products, and by maintaining prescription records and inventories of drugs and other pharmaceutical products
- **Methodical interest in assisting** pharmacists by labelling drugs, chemicals and other pharmaceutical preparations, and by unpacking and storing supplies and verifying items received against invoices
- **Objective interest in handling** scales, weights and measures to ensure correct amounts of ingredients are present in formulas and prescriptions
- **Innovative interest in compiling** information to compound, mix and formulate ointments, solutions, lotions, mouthwashes and other medications under the supervision of pharmacists

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

2 Light

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4, 6

- Pharmacy assistants require completion of secondary school *and* several months of on-the-job training *or* a five- to nine-month college program in pharmaceutical services.

Workplaces/Employers

Clinics

Hospitals

Pharmacies

Similar Occupations Classified Elsewhere

Medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Pharmacists (3131)

3414.5 Central Supply Aides

Central supply aides perform a variety of support functions to assist health care professionals and other health care staff.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	4	4	4	4	4	4	4

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

574

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	2	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

4, 6

Examples of Job Titles

central supply aide

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand instructions to assist with central supply support functions
- **Objective interest** in operating machines such as instrument washers, sonic sinks, cart washers and steam autoclaves to clean, reprocess and sterilize supplies for reuse
- **Methodical interest** in copying information to assemble packs of sterile supplies and instruments for delivery to hospital departments
- **Innovative interest** in assisting health care staff by collecting and sorting soiled supplies and instruments from hospital departments, and by delivering sterile supplies to departments as required

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
2 Standing and/or walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H2 Biological agents

Employment Requirements

Education/Training
4, 6

- Health care courses or short-term college programs related to the work of medical assistants, such as a program in central supply service techniques, are available and may be required by employers.

Workplaces/Employers

Hospitals
Medical clinics

Similar Occupations Classified Elsewhere

Nurse Aides, Orderlies and Patient Service Associates (3413)

Operating room technicians (in 3233
Licensed Practical Nurses)

3414.6 Blood Donor Clinic Assistants

Blood donor clinic assistants perform a variety of support functions to assist health care professionals and other health care staff.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	4	4	4	3	4	4	3

INTERESTS

OMs

DATA PEOPLE THINGS (DPT)

577

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H2

EDUCATION/TRAINING

4

Examples of Job Titles

blood donor clinic assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand instructions to assist with blood donor clinic support functions
- **Clerical perception** to record information on donors and label and process donated blood
- **Manual dexterity** to operate equipment
- **Objective interest in handling** to set up and dismantle equipment and process donated blood
- **Methodical interest in copying** information to monitor donors throughout procedure and assist with post-donation care and donor reaction care as assigned under the supervision of registered nurses; and in maintaining supplies
- **Social interest in assisting** other health care staff to perform a variety of support functions as members of blood donor clinic teams

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H2 Biological agents

Employment Requirements

Education/Training

4

- Completion of secondary school and several months of on-the-job training are usually required for this occupation.

Workplaces/Employers

Blood donor clinics

Hospitals

Medical clinics

Similar Occupations Classified Elsewhere

Medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Operating room technicians (in 3233 *Licensed Practical Nurses*)

3414.7 Morgue Attendants

Morgue attendants provide support services and assistance to pathologists.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	4	4	4	4	3	3

INTERESTS

MIO

DATA PEOPLE THINGS (DPT)

574

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	3	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H2, D3

EDUCATION/TRAINING

4

Examples of Job Titles

autopsy assistant
clinical laboratory helper
morgue attendant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to help pathologists at autopsies by preparing bodies in morgues and laying out surgical instruments, laboratory supplies, fixatives and other articles
- **Methodical interest** in assisting pathologists by preparing examination rooms, transferring bodies from morgues to examining tables, and cleaning and sewing up bodies for release to funeral homes
- **Innovative interest** in copying procedures for removing organs and tissue specimens as instructed by pathologists; and in preparing solutions for preservation of specimens
- **Objective interest** in manipulating surgical instruments and equipment to make incisions and remove organs and tissue specimens, as instructed by attending pathologist; and in placing specimens in preservative solutions

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

3 Medium

Environmental Conditions

Location

L1 Regulated inside climate

Hazards

H2 Biological agents

Discomforts

D3 Odours

Employment Requirements

Education/Training

4

- Completion of secondary school and several months of on-the-job training are usually required.

Workplaces/Employers

Hospitals

Medical pathology laboratories

Morgues

Similar Occupations Classified Elsewhere

Medical technologists and technicians (in 321 *Medical Technologists and Technicians (Except Dental Health)*)

Operating room technicians (in 3233 *Licensed Practical Nurses*)

Pathologists' assistants (in 3211 *Medical Laboratory Technologists and Pathologists' Assistants*)

**Occupations in Social Science, Education,
Government Service and Religion**

Occupations in Social Science, Education, Government Service and Religion

MAJOR GROUP 41

PROFESSIONAL OCCUPATIONS IN SOCIAL SCIENCE, EDUCATION, GOVERNMENT SERVICES AND RELIGION

411 Judges, Lawyers and Quebec Notaries

4111 Judges

4112 Lawyers and Quebec Notaries

412 University Professors and Assistants

4121 University Professors

4122 Post-Secondary Teaching and Research Assistants

4122.1 Post-Secondary Teaching Assistants

4122.2 Post-Secondary Research Assistants

413 College and Other Vocational Instructors

4131 College and Other Vocational Instructors

414 Secondary and Elementary School Teachers and Educational Counsellors

4141 Secondary School Teachers

4142 Elementary School and Kindergarten Teachers

4143 Educational Counsellors

415 Psychologists, Social Workers, Counsellors, Clergy and Probation Officers

4151 Psychologists

4152 Social Workers

4153 Family, Marriage and Other Related Counsellors

4154 Ministers of Religion

4155 Probation and Parole Officers and Related Occupations

4155.1 Probation and Parole Officers

4155.2 Classification Officers, Correctional Institutions

416 Policy and Program Officers, Researchers and Consultants

4161 Natural and Applied Science Policy Researchers, Consultants and Program Officers

4161.1 Ergonomists

4161.2 Occupational/Industrial Hygienists

4161.3 Patent Agents

4161.4 Science Policy and Program Officers

4162 Economists and Economic Policy Researchers and Analysts

4163 Business Development Officers and Marketing Researchers and Consultants

4111 Judges

Judges adjudicate civil and criminal cases and administer justice in courts of law. Judges preside over federal and provincial courts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	3	4	4	4	4	4	4

INTERESTS

DMI

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8+, R

Examples of Job Titles

chief justice
county court judge
Court of Queen's Bench justice
district court judge
family court judge
federal trial court justice
provincial court of appeal justice
small claims court judge
superior court justice
Supreme Court justice

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to weigh and consider evidence in non-jury trials and to decide legal guilt, innocence and degree of liability of the defendant
- **Verbal ability** to instruct the jury on applicable laws
- **Directive interest** in co-ordinating information to preside over courts of law; to interpret and make rules regarding the admissibility of evidence; to supervise other judges and court officers; and to enforce court orders for access and support
- **Methodical interest** in adjudicating disputes between adversarial parties according to established jurisprudence as in granting divorces and dividing assets between contesting parents and other guardians
- **Innovative interest** in mentoring to protect individuals and society by passing sentence on persons convicted in criminal cases and determining damages and other appropriate remedies in civil cases; and in determining custody of children between contesting parents and other guardians

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
8+, R

- Extensive experience as a lawyer or as a professor of law with continuous membership in the bar association is usually required.
- Membership in good standing with a provincial or territorial law society or bar association is required.
- Judges are appointed by federal or provincial cabinet.

Workplaces/Employers

Federal government
Provincial government

Occupational Options

Those appointed to more senior positions in a court, such as chief justice, usually have experience as judges in that court.

Similar Occupations Classified Elsewhere

Administrative tribunal judges (in 0411 *Government Managers – Health and Social Policy Development and Program Administration*)

Citizenship court judges (in 1227 *Court Officers and Justices of the Peace*)

Justices of the Peace (in 1227 *Court Officers and Justices of the Peace*)

Remarks

Judges may specialize in particular areas of law such as civil, criminal or family law.

4112 Lawyers and Quebec Notaries

Lawyers and Quebec notaries advise clients on legal matters, represent clients before administration boards and draw up legal documents such as contracts and wills. Lawyers also plead cases or conduct prosecutions in courts of law. Lawyers are employed in law firms and prosecutor's offices. Quebec notaries are employed in notary offices. Both lawyers and Quebec notaries are employed by federal, provincial and municipal governments and various business establishments or they may be self-employed. Articling students are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	3	4	4	3	4	4	4

INTERESTS

MID

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8+, R

Examples of Job Titles

articling student
attorney
barrister
corporate counsel
Crown attorney
Crown prosecutor
general counsel
law partner
lawyer
legal advisor
notary (Quebec)
solicitor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to draw up legal documents, such as real estate transactions, wills, divorces and contracts, to prepare statements of legal opinions and to advise clients of their legal rights and all matters related to law
- **Verbal ability** to plead clients' cases before courts of law, tribunals and boards (lawyers only), and to communicate with clients using legal terminology
- **Methodical interest** in co-ordinating information to perform administrative and management functions related to the practice of law
- **Innovative interest** in negotiating settlements of civil disputes (lawyers only), in applying principles of civil law as it pertains to notarization of legal documents and in researching legal precedents and gathering evidence
- **Directive interest** in mentoring in order to advise clients of their legal rights and all matters related to law; may act as an executor, trustee or guardian in estate and family law matters; may act as mediator, conciliator or arbitrator

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	0	Not relevant
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
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Employment Requirements

Education/Training
8+, R

Lawyers

- Two to three years of undergraduate studies or, in Quebec, completion of college program
and
a bachelor's degree from a recognized law school
and
successful completion of the bar examination and completion of a period of articling are required.
- Licensing by the provincial or territorial law society is required.

Notaries (Quebec)

- A bachelor's degree from a recognized law school and a Diploma of Notarial Law (D.D.N.)
or
a master's degree of law with specialization in notarial law
and
a 32 week vocational training program are required.
- Registration with the corporation of notaries is required.

Workplaces/Employers

Business establishments
Federal government
Law firms
Municipal governments
Notary offices
Prosecutor's offices
Provincial governments
Self-employment

Occupational Options

Lawyers wishing to practise in another province may be required to pass examinations set by the provincial law society.

Similar Occupations Classified Elsewhere

Legal department directors (in 0114 *Other Administrative Services Managers*)

Legal firm managers (in 0123 *Other Business Services Managers*)

Notaries public and trademark agents who are not lawyers (in 4211 *Paralegal and Related Occupations*)

Patent agents who are not lawyers or Quebec notaries (in 4161 *Natural and Applied Science Policy Researchers, Consultants and Program Officers*)

Remarks

Lawyers and Quebec notaries may specialize in specific areas of law such as criminal law (lawyers only), corporate law, contract law, taxation law, administrative law, international law, commercial law, real estate law, family and estate law, intellectual property law or labour law.

4121 University Professors

University professors teach courses to undergraduate and graduate students and conduct research at universities and degree-granting colleges. University professors who are heads of departments are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	3	3	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2*	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8, R

Examples of Job Titles

assistant professor, botany
associate professor, linguistics
chairperson, food sciences department
chairperson, physics department
department head, geography
English professor
lecturer – university
professor of computer science
professor of medicine
university instructor, engineering
university professor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the basic principles and techniques of a particular area of study
- **Verbal ability** to prepare and deliver lectures to students and conduct laboratory sessions and discussion groups
- **Numerical ability** to use advanced mathematics and complex formulas, particularly when teaching engineering, mathematics and physical sciences
- **Innovative interest** in synthesizing information to advance existing knowledge and develop new theories in specialized fields of study by conducting research; in publishing findings in scholarly journals and books, developing curricula and in preparing examinations, laboratory assignments and reports
- **Directive interest** in advising on research matters and directing research programs of graduate students, in advising students on course and academic matters and career decisions, and in administering and grading examinations, laboratory assignments and reports; may serve on faculty committees dealing with matters such as curriculum planning and degree requirements and perform a variety of administrative duties
- **Social interest** in instructing undergraduate and graduate students; may provide consulting services to government, industry and private individuals; may represent their universities as speakers and guest lecturers

Physical Activities

Vision

2* Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8, R

- A doctoral degree in the field of specialization is required.
- Licences or professional certification may be required for professors teaching future practitioners in certain professionally regulated fields, such as medicine, engineering, architecture, psychology or law.

Workplaces/Employers

Colleges

Universities

Occupational Options

University professors who are also practitioners in their field of specialization must have the appropriate licences or certification.

Progression to senior positions within a department, faculty or university is possible with experience.

Similar Occupations Classified Elsewhere

Administrators – Post-Secondary Education and Vocational Training (0312)

College and Other Vocational Instructors (4131)

Post-Secondary Teaching and Research Assistants (4122)

Remarks

University professors specialize in a particular subject matter such as biology, chemistry, anatomy, sociology, business administration or law.

*Physical Activities

- For some occupations in this group, **Vision 1** (Close visual acuity) may also apply.

4122.1 Post-Secondary Teaching Assistants

Post-secondary teaching assistants assist university professors, community college, and CEGEP teachers and other faculty members in teaching activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

MIS

DATA PEOPLE THINGS (DPT)

327

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7

Examples of Job Titles

college teaching assistant

graduate assistant

postdoctoral fellow

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to grade examinations, term papers and laboratory reports
- **Verbal ability** to conduct seminars, discussion groups and laboratory sessions
- **Methodical interest in handling** visual aids and other materials to organize them for lectures as required by university professors and college teachers
- **Innovative interest in compiling** information and reference materials to assist in the preparation and administration of examinations
- **Social interest in instructing** and teaching students in post-secondary educational institutions

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6, 7

- Enrolment in a university, college or CEGEP program is required.

Workplaces/Employers

CEGEPs
Colleges
Universities

Similar Occupations Classified Elsewhere

Elementary and Secondary School Teacher Assistants (6472)

Remarks

Post-secondary teaching assistants specialize in a subject matter based on their field of study.

4122.2 Post-Secondary Research Assistants

Post-secondary research assistants assist university professors, community college and CEGEP teachers and other faculty members in research activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

MIs

DATA PEOPLE THINGS (DPT)

370

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

6, 7

Examples of Job Titles

graduate assistant
research assistant, university

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist professors in conducting research and analyzing results
- **Verbal ability** to conduct literature reviews, surveys and other research for use in scholarly publications
- **Methodical interest in setting up** and conducting laboratory experiments, demonstrations and other research activities
- **Innovative interest in compiling** research results and assisting with the preparation of journal articles and papers
- **Social interest in assisting** professors in research activities at post-secondary educational institutions

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

L3* Outside

Employment Requirements

Education/Training

6, 7

- Enrolment in a university, college or CEGEP program is required.

Workplaces/Employers

CEGEPs

Colleges

Universities

Similar Occupations Classified Elsewhere

Elementary and Secondary School Teacher Assistants (6472)

Remarks

Post-secondary research assistants specialize in a subject matter based on their field of study.

*Environmental Conditions

- For some occupations in this group, Location L3 (Outside) may also apply.

4131 College and Other Vocational Instructors

College and other vocational instructors teach applied arts, academic, technical and vocational subjects to students. College instructors who are heads of departments are included in this group, as well as trainers who teach in-house training and developmental courses.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2*	1	2	3*	1*	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

1+, 2+, 3+, 4+, 5+, 6+, 7+, 8+, R

Examples of Job Titles

CEGEP teacher
college department chairperson, trades programs
college teacher
commercial art instructor
community college teacher
company trainer
computer training instructor
department head, dental hygienist program
hairdressing teacher
language instructor – language school
teacher, legal assistant program
training officer
vocational school teacher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to teach students in a particular area of study using a systematic plan of lectures, demonstrations, discussion groups, laboratory work, shop sessions, seminars, case studies, field assignments and independent or group projects

- **Innovative interest in co-ordinating** information to develop curricula and prepare teaching materials, course outlines and examinations
- **Directive interest** in administering and marking tests and papers to evaluate students' progress and in supervising independent or group projects, field placements, laboratory work or hands-on training; may serve on committees concerned with matters such as budgets, curriculum revision, and course and diploma requirements
- **Social interest in instructing** students, providing individualized tutoring and advising on program curriculum and career decisions

Physical Activities

Vision

2* Near vision

Colour Discrimination

1 Relevant

Hearing

2 Verbal interaction

Body Position

3* Sitting, standing, walking

Limb Co-ordination

1* Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

1+, 2+, 3+, 4+, 5+, 6+, 7+, 8+, R

- A bachelor's degree or college diploma or demonstrated expertise in the field of instruction is required.
- A master's degree in the field of instruction may be required.
- A certificate, diploma or degree in adult education may be required.
- For instructors of trades, completion of apprenticeship training and trade certification are required. Additional courses in teaching or a provincial teaching certificate may be required.

Workplaces/Employers

Agricultural colleges

CEGEPs

Community agencies

Community colleges

Language schools

Organizations throughout the private and public sectors

Private training establishments

Technical institutes

Vocational schools

Occupational Options

Progression to administrative positions in post-secondary education is possible with experience.

Similar Occupations Classified Elsewhere

Instructors teaching non-academic or non-vocational courses (in 4216 *Other Instructors*)

Secondary School Teachers (4141)

University Professors (4121)

Remarks

These instructors specialize in particular fields of study such as visual arts, dental hygiene, welding, engineering technology, and policing or in areas such as computer software, management, pre-employment training and literacy skills.

*Physical Activities

- For some occupations in this group, **Vision** 1 (Close visual acuity), **Body Position** 4 (Other body positions) and **Limb Co-ordination** 2 (Multiple limb co-ordination) may also apply.

4141 Secondary School Teachers

Secondary school teachers prepare and teach academic, technical, vocational and specialized subjects at public and private secondary schools. Secondary school teachers who are heads of departments and high school librarians are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	3	3	4	4	4

INTERESTS

SID

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

adult education teacher, secondary school
biology teacher, high school
commerce teacher, secondary school
department head, secondary school
English as a second language teacher, high school
English teacher, secondary school
French as a second language teacher, high school
high school teacher, special education
history teacher, secondary school
librarian, high school
secondary school teacher
supply teacher, high school
vocational teacher, high school

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to prepare subject material for presentation to students according to curriculum, and to evaluate students' progress and determine their individual needs
- **Verbal ability** to teach students and discuss results with parents and school officials
- **Numerical ability** to understand and apply mathematical concepts when teaching mathematics and science subjects, and when computing grades
- **Social interest** in participating in staff meetings, educational conferences and teacher training workshops; may advise students on course selection and on vocational and personal matters
- **Innovative interest** in co-ordinating information to prepare materials for academic, technical, vocational and specialized subjects and examinations, and to prepare and implement remedial programs for students requiring extra help
- **Directive interest** in instructing students using a systematic plan of lectures, discussions, audio-visual presentations, and laboratory, shop and field studies; and in assigning and correcting homework, and administering and correcting examinations; may supervise student teachers

Physical Activities

Vision

3 Near and far vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, R

- Teachers of academic subjects require a bachelor's degree in education which is often preceded by a bachelor's degree in the arts or sciences.
- Teachers of vocational or technical subjects require a bachelor's degree in education which is usually preceded by specialized training or experience in the subject.
- Department heads usually require several years of teaching experience.
- Additional training is required to specialize in special education or English or French as a second language.
- A provincial teaching certificate is required.

Workplaces/Employers

Private secondary schools

Public secondary schools

Occupational Options

Progression to vice-principal or other administrative positions in the education system is possible with experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Educational Counsellors (4143)

Elementary and Secondary School Teacher Assistants (6472)

Elementary School and Kindergarten Teachers (4142)

School Principals and Administrators of Elementary and Secondary Education (0313)

Teachers of non-academic or vocational courses (in 4216 *Other Instructors*)

Teachers teaching life skills courses to persons with disabilities (in 4215 *Instructors and Teachers of Persons with Disabilities*)

Remarks

Secondary school teachers usually specialize in such areas as mathematics, English, French, special education or second language instruction.

4142 Elementary School and Kindergarten Teachers

Elementary school and kindergarten teachers teach basic subjects, such as reading, writing and arithmetic, and specialized subjects, such as English or French as a second language, at public and private elementary schools. Elementary school librarians are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

SID

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

7, R

Examples of Job Titles

elementary school teacher
elementary school teacher, English as a second language
elementary school teacher, French as a second language
French immersion teacher – elementary school
kindergarten teacher
librarian, elementary school
primary school teacher
special education teacher – elementary school
supply teacher – elementary school

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to teach basic and specialized subjects, and to evaluate students' progress
- **Verbal ability** to teach students and discuss their progress with them, their parents and school officials
- **Social interest** in leading students in activities to promote their physical, mental and social development; in participating in staff meetings, educational conferences and teacher training workshops; and in preparing examinations
- **Innovative interests in co-ordinating** information to prepare courses for presentation to students according to curriculum, to identify children's individual learning needs and to prepare and implement remedial programs for students requiring extra help
- **Directive interest in instructing** students using a systematic plan of lessons, discussions, audio-visual presentations and field trips; and in assigning and correcting homework and administering and correcting examinations; may supervise teachers' aides and student teachers

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
7, R

- A bachelor's degree in education is required.
- A provincial teaching certificate is required. Additional certification is required to teach English or French as a second language.

Workplaces/Employers

Private elementary schools

Public elementary schools

Occupational Options

Progression to education consultant or school principal is possible with experience.

Similar Occupations Classified Elsewhere

Early Childhood Educators and Assistants (4214)

Elementary and Secondary School Teachers Assistants (6472)

School Principals and Administrators of Elementary and Secondary Education (0313)

Secondary School Teachers (4141)

Teachers teaching life skills to persons with disabilities (in 4215 *Instructors and Teachers of Persons with Disabilities*)

Remarks

Elementary school and kindergarten teachers may specialize in such areas as special education or second language instruction.

Additional training is required to specialize in special education or second language instruction.

4143 Educational Counsellors

Educational counsellors advise current and prospective students on educational issues, career planning and personal development, and co-ordinate the provision of counselling services to students, parents, teachers, faculty and staff.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	4	4	4	4

INTERESTS

SI d

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

academic counsellor
educational counsellor
guidance counsellor
school counsellor
student counsellor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to counsel students regarding issues such as course and program selection, time tables and scheduling, school adjustment, attendance problems, study skills and career planning
- **Verbal ability** to consult with teachers and parents or faculty and other professionals such as psychologists, speech therapists and social workers regarding students, and with administrators and community agencies regarding programs and referrals
- **Social interest in mentoring** in order to counsel students on personal and social issues such as substance abuse, depression, sexuality, eating disorders, anxiety, self-esteem, family problems, relationship and interpersonal skills, and anger management; and in crisis situations such as dealing with the death of a friend or family member, suicidal tendencies and abuse situations
- **Innovative interest in co-ordinating** information to provide counselling and information services to students, parents, teachers, faculty and staff on matters related to student orientation, career or vocational issues, professional development, co-op and school-to-work transition programs, and interaction with other educational institutions
- **Directive interest** in administering and interpreting standardized intelligence, personality, vocational, aptitude and interest tests, and in supervising peer counselling programs in school settings; may supervise field experience for graduate students in counselling; may teach regular classes

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

7+, 8+, R

- A bachelor's degree in social sciences or education is required for counsellors in school settings.
- A master's degree in counselling or a related field such as educational psychology, developmental psychology or social work is usually required.
- Academic counsellors in post-secondary settings require an undergraduate degree and may require a graduate degree. A particular academic specialization may also be required.
- A teacher's certificate from the province of employment and some teaching experience is usually required for counsellors in school settings.
- In Quebec, membership in the professional association is mandatory for counsellors in school settings.
- Educational counsellors in colleges and universities may require licensing with a provincial regulatory body governing psychologists, guidance counsellors, or social workers.

Workplaces/Employers

Colleges
 Correctional facilities
 Elementary schools
 Government agencies
 School boards
 Secondary schools
 Technical institutes
 Universities

Similar Occupations Classified Elsewhere

Family, Marriage and Other Related Counsellors (4153)

School psychologists (in 4151
Psychologists)

Secondary School Teachers (4141)

Social Workers (4152)

Remarks

Elementary school counsellors generally provide more social and personal counselling than the vocational and academic counselling provided by high school counsellors.

Educational counsellors in colleges, universities and other settings may specialize in academic counselling, personal or social issues/problems counselling or career/vocational counselling.

4151 Psychologists

Psychologists assess and diagnose behavioural, emotional and cognitive disorders, counsel and provide therapy for clients and research and apply theories relating to behaviour and mental processes. Psychologists help clients work toward the maintenance and enhancement of physical, intellectual, emotional, social and interpersonal functioning.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	2	3	4	3	4	4	4

INTERESTS

SIM

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8+, R

Examples of Job Titles

clinical psychologist
experimental psychologist
psychological associate
psychologist
research psychologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to examine and assess behaviour; to diagnose behavioural, emotional and cognitive disorders; to apply psychological theory and principles regarding behaviour and mental processes, such as learning, memory, perception and language development; and to interpret results of psychological tests
- **Verbal ability** to counsel individuals and groups to achieve more effective personal, social and vocational development and adjustment; and to deliver presentations at conferences, workshops or symposia and provide consultation services to government and other organizations
- **Numerical ability** to apply statistical methods in analyzing research data
- **Social interest in mentoring** in order to counsel clients and provide therapy; in helping clients manage physical illness and disorders, and in offering mediation services
- **Innovative interest in co-ordinating** information to formulate hypotheses and experimental designs, conduct studies and publish research papers, educational texts and articles; and to plan intervention programs and conduct program evaluation
- **Methodical interest** in reviewing literature and administering psychological tests

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

8+, R

- A doctoral degree in psychology is required for the designation "Psychologist" in Ontario, Manitoba and British Columbia.
- A master's degree in psychology is required for the designation "Psychologist" in Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Saskatchewan, Alberta, Nunavut and the Northwest Territories.
- A master's degree in psychology is required for the designation "Psychological Associate" in Ontario and Manitoba.

- In Prince Edward Island, a doctoral degree is required to work in private practice, or a master's degree with practice limited to institutions and agencies.
- A period of supervised practical experience is required in most jurisdictions.
- Successful completion of the written Examination for Professional Practice in Psychology (EPPP) is required in most provinces.
- Oral examinations and/or board interviews are also required in some provinces.
- Registration with a regulatory body is required in all provinces, Nunavut and the Northwest Territories.
- Membership in the provincial professional association for psychologists is mandatory in all provinces, Nunavut and the Northwest Territories.

Workplaces/Employers

Businesses

Clinics

Community service organizations

Correctional facilities

Government agencies

Hospitals

Mental health facilities

Private agencies

Private practices

Rehabilitation centres

Schools

Universities

Occupational Options

Psychological associates may be granted permission by provincial regulatory authorities to perform duties normally restricted to psychologists, specifically diagnosing psychological disorders and communicating diagnoses to clients.

Similar Occupations Classified Elsewhere

Psychiatrists (in 3111 *Specialist Physicians*)

Psychologists who teach at universities (in 4121 *University Professors*)

Psychology research assistants, non-university (in 4164 *Social Policy Researchers, Consultants and Program Officers*)

Psychology research assistants, university (in 4122 *Post-Secondary Teaching and Research Assistants*)

Psychometrists (in 4169 *Other Professional Occupations in Social Science, n.e.c.*)

Remarks

Psychologists may specialize in applied psychology or experimental research. Sub-specialties include behavioural psychology, child psychology, cognitive psychology, developmental psychology, educational and school psychology, forensic psychology, industrial psychology, neuropsychology, social psychology and sports psychology.

Psychologists become specialized in a particular area through training and experience.

4152 Social Workers

Social workers help individuals, couples, families, groups, communities and organizations develop the skills and resources they need to enhance social functioning; provide counselling, therapy and referrals to other supportive social services; and respond to other social needs and issues such as unemployment, racism and poverty.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

SID

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

co-ordinator of social work
medical social worker
psychiatric social worker
social work supervisor
social worker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess clients' situations and problems; to determine types of services required, to advise on and develop social policy, and to evaluate the effectiveness of counselling and social programs
- **Verbal ability** to interview clients individually, in families and in groups, to act as advocates for client groups in the community, and to lobby for solutions to problems directly affecting client groups; may provide public education and consultation to professionals or groups regarding counselling services, issues and methods
- **Social interest in mentoring** in order to counsel and provide therapy to clients to help them develop skills to deal with and resolve their social and personal problems; in serving on interdisciplinary teams of professionals working with client groups; in assisting in community development; and in providing mediation services
- **Innovative interest in co-ordinating** information to plan programs of assistance including referral to agencies that provide financial assistance, legal aid, housing, medical treatment and other services; in conducting social research; and in developing prevention and intervention programs to meet community needs
- **Directive interest** in investigating cases of child abuse and neglect and in taking authorized protective action; may supervise other social workers

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, 8+, R

- A university degree in social work is required in Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Nunavut and the Northwest Territories.

- Supervised practical experience is usually required.
- Successful completion of provincial written and/or oral examinations may be required.
- Registration with a provincial governing body is mandatory to practice as a social worker in Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Ontario and Alberta.

- Use of the titles "Social Worker" and "Registered Social Worker" is regulated in all provinces.
- Membership in a provincial association of social workers is usually required.

Workplaces/Employers

Aboriginal band councils
 Child welfare organizations
 Community agencies
 Correctional facilities
 Employee assistance programs
 Hospitals
 Private practices
 School boards
 Social service agencies

Occupational Options

Progression to supervisory or administrative positions is possible with further education and/or experience. Social workers with graduate degrees may also be employed in social planning and research activities, or in teaching positions in colleges and universities.

Similar Occupations Classified Elsewhere

Community and Social Service Workers (4212)

Educational Counsellors (4143)

Family, Marriage and Other Related Counsellors (4153)

Managers in Social, Community and Correctional Services (0314)

Remarks

Social workers may specialize in fields of practice such as child welfare, family services, corrections, gerontology or addictions.

4153 Family, Marriage and Other Related Counsellors

Family, marriage and other related counsellors assist individuals and groups of clients to identify, understand and overcome personal problems and achieve personal objectives.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	4	4	4	4

INTERESTS

SI d

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8, +, R

Examples of Job Titles

addictions counsellor
bereavement counsellor
child and youth counsellor
family counsellor
marriage counsellor
registered clinical counsellor
registered marriage and family therapist
rehabilitation counsellor
sex therapist
vocational rehabilitation counsellor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess clients' problems and to evaluate the effectiveness of counselling programs and clients' progress in resolving personal problems and moving toward their personal objectives
- **Verbal ability** to interview clients and to prepare case histories and assessment, progress, follow-up and court reports; may provide public education and consultation to other professionals and groups regarding counselling services, issues and methods, and deliver presentations at conferences
- **Innovative interest in co-ordinating** information to develop and implement counselling and intervention programs to assist clients in determining goals and the means of attaining them; may conduct research, publish research papers, educational texts and articles
- **Directive interest** in following up results of counselling programs and clients' adjustments; and in conducting vocational testing and psychometric assessment; may supervise other counsellors, social service staff and assistants
- **Social interest in mentoring** in order to counsel clients, and provide therapy and mediation services; and in assisting individuals and groups of clients to identify, understand and overcome personal problems and achieve personal objectives

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8, +, R

- A master's degree in the field of counselling, mental health or a related social science discipline is usually required.
- In Quebec, a master's degree in psychoeducation is required to practice as a psychoeducator.
- An undergraduate degree or college diploma in a social science is required for certain areas of counselling.
- Membership with a provincial association for marriage and family therapists or clinical counsellors is required to use the title "Registered Marriage and Family Therapist" and "Registered Clinical Counsellor".
- Registered Marriage and Family Therapists and Registered Clinical Counsellors must meet strict criteria involving graduate education and a period of supervised clinical work with clients.
- In Quebec, membership in a professional association is mandatory for counsellors and psychoeducators.

Workplaces/Employers

Counselling centres

Family therapy centres

Government agencies

Health care and rehabilitation clinics

Hospitals

Private practices

Social service agencies

Occupational Options

Counsellors usually become specialized in a particular area through training and experience.

Progression to social service management positions is possible with additional training and experience.

Similar Occupations Classified Elsewhere

*Educational Counsellors (4143)**Employment Counsellors (4213)**Managers in Social, Community and Correctional Services (0314)**Social Workers (4152)*

Remarks

Family, marriage and other related counsellors often specialize in dealing with a specific client group, such as injured workers, or with specific problems such as drug and alcohol addiction, marital difficulties or behavioural disorders.

4154

Ministers of Religion

Ministers of religion conduct religious services, administer the rites of a religious faith or denomination, provide spiritual and moral guidance and perform other functions associated with the practice of a religion.

Profile Summary										Examples of Job Titles	
APTITUDES											archbishop
G	V	N	S	P	Q	K	F	M			bishop
2	2	3	4	4	4	4	4	4			cardinal
INTERESTS											chancellor
SMI											chaplain
DATA PEOPLE THINGS (DPT)											evangelist
108											granthi
PHYSICAL ACTIVITIES (PA)											imam
V	C	H	B	L	S						minister
2	0	2	3*	0	1						moderator
ENVIRONMENTAL CONDITIONS (EC)											pastor
L1											priest
EDUCATION/TRAINING											rabbi
6+, 7+, 8+											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide the motivation, leadership and religious training for a congregation or community of a religious faith, and to supervise and administer programs of religious education
- **Verbal ability** to conduct religious services, individual and family counselling, and visit members of the congregation; may provide consultation services to government and other organizations
 - **Social interest in mentoring** in order to provide spiritual and moral guidance to members of a religious faith; may participate in humanitarian endeavours, social services and welfare activities
- **Methodical interest** in administering rites of faiths, such as marriages and funerals; may share in the administrative and financial operations of a religious community
 - **Innovative interest in co-ordinating** information to plan programs of religious worship and education

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3* Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, 8+

- Educational requirements vary depending on the religion and range from the completion of a college or other program in religious studies to a Master of Divinity degree.
- A period of study with a senior minister is usually required.

Workplaces/Employers

Churches

Institutions such as schools, hospitals and prisons

Places of worship

Synagogues

Temples

Occupational Options

Progression to senior positions within a religious order is possible with experience.

Similar Occupations Classified Elsewhere

Other Religious Occupations (4217)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) may also apply.

4155.1 Probation and Parole Officers

Probation officers monitor the conduct and behaviour of criminal offenders serving probation terms. Parole officers monitor the reintegration of criminal offenders serving the remainder of sentences while conditionally released into the community on parole.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8

Examples of Job Titles

case manager – corrections

parole officer

probation officer

youth worker – corrections

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to evaluate offenders' progress in meeting goals and maintaining the terms specified in their probation contracts and rehabilitation plans, and to assess offenders' prospects for successful reintegration into the community; may participate in policy development
- **Verbal ability** to interview offenders, police, family, friends, school authorities and employers to prepare pre-sentence reports, and to interview probationers and parolees regularly
- **Methodical interest** in **co-ordinating** information to compile case records and in submitting information and recommendations to parole boards; may perform administrative duties
- **Social interest** in **mentoring** in order to plan rehabilitation programs with offenders by establishing rules of conduct, goals and objectives; and in referring offenders to community and social service programs
- **Directive interest** in supervising the terms of probation orders, and in recommending remedial action or initiating court action when probationers or parolees violate the terms of rehabilitation programs; may supervise support staff

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8

- A bachelor's degree in social work, criminology, psychology, sociology or other related social science discipline is required.
- A master's degree in social work, criminology, psychology or other related social science discipline may be required.

Workplaces/Employers

Community and correctional facilities

Federal and provincial governments

Occupational Options

Progression to correctional service management positions is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Community and Social Service Workers (4212)

Correctional Service Officers (6462)

Correctional services managers (in 0314
Managers in Social, Community and Correctional Services)

Social Workers (4152)

4155.2 Classification Officers, Correctional Institutions

Classification officers assess inmates and develop rehabilitation programs for criminal offenders who are incarcerated in correctional facilities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

SMI

DATA PEOPLE THINGS (DPT)

108

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8

Examples of Job Titles

classification counsellor – corrections
classification officer, correctional institution

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess inmates' adjustment problems, develop suitable rehabilitation programs and evaluate inmates' progress
- **Verbal ability** to interview inmates and communicate with the inmates' families and contacts in the community to maintain established bonds outside the institution
- **Social interest in mentoring** in order to plan rehabilitation programs with offenders by identifying needs and setting goals and objectives; and in advising and counselling inmates regarding their problems
- **Methodical interest in co-ordinating** information to prepare classification reports
- **Innovative interest** in recommending types of incarceration and interventions considered most beneficial for the rehabilitation of inmates, and in developing suitable rehabilitation programs

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8

- A bachelor's degree in social work, criminology, psychology, sociology or other related social science discipline is required.
- A master's degree in social work, criminology, psychology or other related social science discipline may be required.

Workplaces/Employers

Community and correctional facilities

Federal and provincial governments

Occupational Options

Progression to correctional service management positions is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Community and Social Service Workers (4212)

Correctional Service Officers (6462)

Correctional services managers (in 0314 Managers in Social, Community and Correctional Services)

Social Workers (4152)

4161.1 Ergonomists

Ergonomists or human factors specialists conduct research, prepare reports and provide consultation and advice on, and intervene in, the physical, social and psychological interrelationships between persons, their equipment and the environment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8, R

Examples of Job Titles

ergonomist
human factors specialist (except engineer)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and working functions as they relate to main duties:

- **General learning ability** to research the interrelationships between persons, their equipment, and working and living environments
- **Verbal ability** to prepare research reports
- **Numerical ability** to carry out statistical analyses of data
- **Spatial and form perception** to recognize the interrelationships among equipment, environment and people's motions, and to make visual comparisons and discriminations when examining working and living conditions
- **Innovative interest** in **co-ordinating** information to evaluate working and living environments
- **Directive interest** in **consulting** with clients to ensure that the design, configuration and use of equipment, procedures and environmental conditions maximize safety, productivity and comfort
- **Methodical interest** in **handling** equipment to conduct research

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8, R

- A bachelor's degree or college diploma in a related scientific or technical discipline is usually required for occupations in this group.
- A master's degree in a related scientific discipline may be required.
- Certification of ergonomists through the Canadian Ergonomics Certification Board leading to the designation "Certified Ergonomist" (C. Ergo) is available.

Workplaces/Employers

Computer manufacturers
 Consulting firms
 Educational institutions
 Environmental and conservation organizations
 Federal government
 Municipal governments
 Office furniture manufacturers
 Provincial governments
 Research organizations
 Self-employment

Occupational Options

Progression to supervisory or managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Architecture and Science Managers
 (0212)

Health Policy Researchers, Consultants and Program Officers (4165)

Professional occupations in engineering (in 213 *Professional Occupations in Civil, Mechanical, Electrical and Chemical Engineering* and 214 *Other Professional Occupations in Engineering*)

Professional Occupations in Life Sciences (212)

Professional Occupations in Physical Sciences (211)

4161.2 Occupational/Industrial Hygienists

Occupational and industrial hygienists conduct research, prepare reports, provide consultation and advice, and administer programs related to physical and chemical hazards and stresses in the workplace.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4
INTERESTS								
IDM								
DATA PEOPLE THINGS (DPT)								
127								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
4	0	2	3	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
6, 7, 8, R								

Examples of Job Titles

industrial hygienist
occupational hygienist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to study physical, chemical and biological hazards and stresses in the workplace
- **Verbal ability** to report and document investigations and conclusions and to prepare research reports; may teach safe work procedures, testify at hearings and report findings at scientific conferences or in scientific journals
- **Numerical ability** to carry out statistical analyses of data
- **Innovative interest in co-ordinating** information to evaluate physical, chemical and biological hazards and stresses in the workplace; may participate in emergency response planning
- **Directive interest in consulting** to suggest changes to work environments and processes; and in providing information to workers and managers or employers on how to reduce the risks of injury or illness from specific occupational hazards
- **Methodical interest in handling** equipment to conduct research; and in controlling physical, chemical and biological hazards

Physical Activities

Vision

4 Total visual field

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8, R

- A bachelor's degree or college diploma in a related scientific or technical discipline is usually required for occupations in this group.
- A master's degree in a related scientific discipline may be required.
- Occupational hygienists may require certification by The Canadian Registration Board of Occupational Hygienists or le Conseil d'accréditation en hygiène industrielle du Québec.

Workplaces/Employers

Computer manufacturers
 Consulting firms
 Educational institutions
 Environmental and conservation organizations
 Federal government
 Municipal governments
 Office furniture manufacturers
 Provincial governments
 Research organizations
 Self-employment

Occupational Options

Progression to supervisory or managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Architecture and Science Managers
 (0212)

Health Policy Researchers, Consultants and Program Officers (4165)

Professional occupations in engineering (in 213 *Professional Occupations in Civil, Mechanical, Electrical and Chemical Engineering* and 214 *Other Professional Occupations in Engineering*)

Professional Occupations in Life Sciences (212)

Professional Occupations in Physical Sciences (211)

4161.3 Patent Agents

Patent agents represent inventors and companies in dealings with the Canadian Patent Office to obtain grants of patents for them, and to advise inventors and applicants on aspects of patent law.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, 8+, R

Examples of Job Titles

patent agent

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply elements of patent law
- **Verbal ability** to advise clients on originality, utility and inventiveness of ideas and inventions to represent them before the Canadian Patent Office
- **Clerical perception** to prepare patent applications, including descriptions of inventions and claims that define the monopolies covered by patents
- **Innovative interest** in co-ordinating information to conduct patent searches
- **Directive interest** in consulting with clients to advise them on patent law and on the patentability of inventions
- **Methodical interest** in preparing and modifying patent applications

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, 8+, R

- A bachelor's degree or college diploma in a related scientific or technical discipline is usually required for occupations in this group.
- A master's degree in a related scientific discipline may be required.
- Patent agents require 12 months of work experience in the patent field and successful completion of examinations set by the Commissioner of Patents. They may also be required to be listed on the register of patent agents.

Workplaces/Employers

Consulting firms
 Federal government
 Municipal governments
 Provincial governments
 Research organizations
 Self-employment

Occupational Options

Progression to supervisory or managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Architecture and Science Managers
 (0212)

Health Policy Researchers, Consultants and Program Officers (4165)

Professional occupations in engineering (in 213 *Professional Occupations in Civil, Mechanical, Electrical and Chemical Engineering* and 214 *Other Professional Occupations in Engineering*)

Professional Occupations in Life Sciences (212)

Professional Occupations in Physical Sciences (211)

4161.4 Science Policy and Program Officers

Science policy and program officers conduct research, prepare reports, provide consultation and advice, and administer programs in areas related to the natural and applied sciences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	3	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8

Examples of Job Titles

energy policy analyst
environmental impact analyst
environmental issues lobbyist
fisheries analyst
natural resources policy analyst
program officer, natural and applied sciences
recycling program co-ordinator
scientific consultant
supervisor, environmental program development
transportation program analyst
transportation safety analyst

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research and develop programs related to transportation, communications, natural resources, agriculture, the environment, energy, land use, recycling and other scientific fields
- **Verbal ability** to prepare research reports and to promote public awareness and education on such issues as utilization of natural resources, the environment, and reprocessing and reducing waste
- **Innovative interest** in co-ordinating information to conduct research and to develop policies and programs in the natural and applied science fields
- **Numerical ability** to conduct statistical analyses
- **Directive interest** in consulting to advise governments on policies related to scientific field
- **Methodical interest** in administering programs

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8

- A bachelor's degree or college diploma in a related scientific or technical discipline is usually required for occupations in this group.
- A master's degree in a related scientific discipline may be required.

Workplaces/Employers

Computer manufacturers

Consulting firms

Educational institutions

Environmental and conservation organizations

Federal government

Municipal governments

Provincial governments

Research organizations

Self-employment

Occupational Options

Progression to supervisory or managerial positions in this field is possible with experience.

Similar Occupations Classified Elsewhere

Architecture and Science Managers (0212)

Health Policy Researchers, Consultants and Program Officers (4165)

Professional occupations in engineering (in 213 *Professional Occupations in Civil, Mechanical, Electrical and Chemical Engineering* and 214 *Other Professional Occupations in Engineering*)

Professional Occupations in Life Sciences (212)

Professional Occupations in Physical Sciences (211)

4162 Economists and Economic Policy Researchers and Analysts

Economists and economic policy researchers and analysts conduct research, monitor data, analyze information and prepare reports and plans to resolve economic and business problems and develop models to analyze, explain and forecast economic behaviour and patterns. They advise on matters such as finance, fiscal and monetary policy, international trade, agricultural and natural resource commodities and labour and industrial markets.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	1	4	4	3	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

agricultural economist
economic advisor
economic policy analyst
economist
economist, natural resources
energy economist
financial economist
industrial economist
international trade economist
investment economist
labour economist
tax economist
trade economist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to analyze factors that determine economic growth, labour force participation, employment, wages, unemployment and other labour market outcomes; to examine problems related to the economic activities of individual companies, such as financial methods, production costs and techniques, and marketing policies, in order to recommend possible improvements; and to assess the effectiveness of monetary and fiscal policies
- **Verbal ability** to advise government agencies and private establishments on matters such as finance, fiscal and monetary policy, taxation, international trade, agricultural and natural resources commodities, and labour and industrial markets
- **Numerical ability** to study mathematical formulas and statistical techniques and apply them to the testing and quantifying of economic theories and the solution of economic problems; and to examine statistical data on the exchange of goods and services among nations
- **Innovative interest** in conducting research and developing models to analyze, explain and forecast economic behaviour and patterns; in devising methods to collect and analyze data; and in studying the nature of money, credit and credit instruments, and the operations of banks and other financial institutions in order to develop monetary policies and forecasts of financial activity
- **Methodical interest** in **co-ordinating** information to monitor economic data and regional and local economic trend; to forecast the production and consumption of renewable resources and supply, consumption and depletion of non-renewable resources; to forecast production and consumption of specific products and services based on records of past production and consumption and general economic and industry-specific conditions; and to prepare forecasts of income and expenditure, interest rates and exchange rates
- **Directive interest** in **consulting** to advise government agencies on policies to increase economic activities; in conducting research on market conditions in local, regional and national areas to set sales and pricing levels for goods and services, and to assess market potential and future trends

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8

- A master's degree in economics or in a related discipline such as business administration or statistics is usually required.
- A doctorate in economics may be required.

Workplaces/Employers

Associations

Banks

Government departments and agencies

Investment firms

Research organizations

Unions

Occupational Options

Progression to managerial positions in economics is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Economists who teach at universities (in 4121 *University Professors*)

Financial and Investment Analysts (1112)

Government Managers – Economic Analysis, Policy Development and Program Administration (0412)

Labour policy analysts (in 4164 *Social Policy Researchers, Consultants and Program Officers*)

4163 Business Development Officers and Marketing Researchers and Consultants

Business development officers and marketing researchers and consultants conduct research, formulate policies and manage programs to stimulate industrial and commercial business investment or tourism in urban and rural areas and commercial and industrial products and services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

DIS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, R

Examples of Job Titles

business development officer
community economic development consultant
economic development officer
industrial development officer
market researcher
marketing analyst
marketing consultant
regional development analyst
tourism development officer
tourism industry consultant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct social and economic surveys on local, regional and national areas to assess development potential, future trends and business opportunities; and to conduct comparative research on marketing strategies for industrial and commercial products
- **Verbal ability** to respond to inquiries from members of the business community and general public concerning development opportunities, and to review commercial and industrial development proposals
- **Numerical ability** to conduct surveys and analyze data on the buying habits and preferences of wholesale or retail consumers
- **Directive interest in co-ordinating** information to plan development projects with representatives of a wide variety of industrial and commercial enterprises, business associations and government agencies, and to develop strategies to attract venture capital; and in administering programs to promote industrial and commercial business investment and tourism
- **Innovative interest** in developing policies and programs to promote industrial and commercial business investment in urban and rural areas, and in developing social and economic profiles of urban and rural areas to encourage industrial and commercial investment and development
- **Social interest in consulting** to advise on procedures and requirements for government approval

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
7, R

- A bachelor's degree in economics, commerce, business administration or public administration is required.
- Certification as a certified economic developer (Ec.D.) may be required.

Workplaces/Employers

Business associations
Government departments
Marketing firms
Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Economic development managers (in 0412 *Government Managers – Economic Analysis, Policy Development and Program Administration*)

Economists and Economic Policy Researchers and Analysts (4162)

Financial and Investment Analysts (1112)

International development or aid officers (in 4164 *Social Policy Researchers, Consultants and Program Officers*)

Marketing managers (in 0611 *Sales, Marketing and Advertising Managers*)

Other Financial Officers (1114)

Urban and Land Use Planners (2153)

4164.1 Social Policy Researchers

Social policy researchers conduct research, develop policy and implement and administer programs in areas such as employment, immigration, law enforcement, corrections, human rights, housing, labour and family services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8

Examples of Job Titles

Aboriginal issues lobbyist
child welfare policy analyst
community social development officer
human rights officer
labour policy analyst
policy analyst, immigration
policy consultant, employment equity
program consultant, community policing
social policy researcher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop social programs, social legislation and proposals based on demographic, social and economic analyses and pilot projects
- **Verbal ability** to communicate research findings both orally and in writing
- **Numerical ability** to conduct statistical analyses
- **Innovative interest** in **co-ordinating** information to develop programs, legislation and proposals based on analyses, and to evaluate pilot projects
- **Directive interest** in implementing and administering social programs and projects
- **Social interest** in **consulting** with government officials to advise on social policy issues

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8

- A bachelor's degree or college diploma in a social science or related discipline, or in business administration is usually required.
- A master's degree in a social science or related discipline, or in business administration may be required.

Workplaces/Employers

Consulting firms

Educational institutions

Government departments and agencies

Industry

International organizations

Non-governmental organizations

Professional associations

Research institutes

Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Community and Social Service Workers (4212)

Economists and Economic Policy Researchers and Analysts (4162)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Health Policy Researchers, Consultants and Program Officers (4165)

Non-government managers in social policy (in 0314 *Managers in Social, Community and Correctional Services*)

Social Workers (4152)

4164.2 Home Economists

Home economists conduct research, develop policy, and implement and administer programs related to consumer affairs and on the selection and proper use of food products, textiles and other consumer goods.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	3	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, R

Examples of Job Titles

consumer advisor

home economist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop, interpret and apply the principles of home economics through research, analysis and consumer education
- **Verbal ability** to communicate findings both orally and in writing, to prepare product displays and demonstrations, and to teach household management skills
- **Form perception** to make visual comparisons when preparing, cooking and testing food and recipes
- **Innovative interest in co-ordinating** information to conduct research on the development of new products, to discover facts on food and nutrition, and to test the uses of new products and materials
- **Directive interest in consulting** to advise consumers on the selection and proper use of food products, textiles and other consumer goods; may also provide consultative services in the areas of development and promotion of new food products, retail buying, social program administration and small business endeavours
- **Social interest in handling** food products, textiles and other consumer goods for research and demonstration purposes

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, R

- A bachelor's degree in home economics, home economics education, human ecology, nutrition and food sciences or family and consumer studies is required.
- Registration is available, but voluntary, for the designation Registered Home Economist in New Brunswick, Ontario, Manitoba and Alberta, and Registered Professional Home Economist in British Columbia.

Workplaces/Employers

Consulting firms

Educational institutions

Government departments and agencies

Hospitals

Industry

International organizations

Non-governmental organizations

Professional associations

Research institutes

Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Community and Social Service Workers (4212)

Economists and Economic Policy Researchers and Analysts (4162)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Health Policy Researchers, Consultants and Program Officers (4165)

Home economics teachers (in 4141 *Secondary School Teachers* and 4142 *Elementary School and Kindergarten Teachers*)

Non-government managers in social policy (in 0314 *Managers in Social, Community and Correctional Services*)

Social Workers (4152)

4164.3 Housing Policy Analysts

Housing policy analysts conduct research, develop policy, and implement and administer housing programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8

Examples of Job Titles

housing policy analyst

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to identify economic, demographic and social developments and examine their implications for housing policy
- **Verbal ability** to communicate research findings and analyses both orally and in writing
- **Innovative interest in co-ordinating** information to assess economic, demographic and social trends for the development of housing policies
- **Directive interest** in administering and implementing housing programs
- **Social interest in consulting** to report on the implications of economic, demographic and social developments for housing policies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8

- A bachelor's degree or college diploma in a social science or related discipline or in business administration is usually required.
- A master's degree in a social science or related discipline or in business administration may be required.

Workplaces/Employers

Consulting firms

Educational institutions

Government departments and agencies

Industry

International organizations

Non-governmental organizations

Professional associations

Research institutes

Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Community and Social Service Workers (4212)

Economists and Economic Policy Researchers and Analysts (4162)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Health Policy Researchers, Consultants and Program Officers (4165)

Non-government managers in social policy (in 0314 *Managers in Social, Community and Correctional Services*)

Social Workers (4152)

4164.4 International Aid and Development Project Officers

International aid and development project officers conduct research, develop policy, and implement and administer programs in international aid and international development.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8

Examples of Job Titles

international aid and development project officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan foreign aid and international development policies and programs
- **Verbal ability** to communicate research findings, policies and programs both orally and in writing
- **Innovative interest in co-ordinating** information to develop policies and programs for international aid
- **Directive interest** in organizing and administering policies and programs
- **Social interest in consulting** to advise on policy issues

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8

- A bachelor's degree or college diploma in a social science or related discipline or in business administration is usually required.
- A master's degree in a social science or related discipline or in business administration may be required.

Workplaces/Employers

Consulting firms

Educational institutions

Government departments and agencies

Industry

International organizations

Non-governmental organizations

Professional associations

Research institutes

Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Community and Social Service Workers (4212)

Economists and Economic Policy Researchers and Analysts (4162)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Health Policy Researchers, Consultants and Program Officers (4165)

Non-government managers in social policy (in 0314 *Managers in Social, Community and Correctional Services*)

Social Workers (4152)

4164.5 Social Survey Researchers

Social survey researchers conduct research into areas such as employment, immigration, corrections, housing, labour and family services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	4	4	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8

Examples of Job Titles

social survey researcher (except statistician)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply survey methodologies
- **Verbal ability** to conduct interviews with survey respondents, and to communicate survey results and recommendations both orally and in writing
- **Numerical ability** and **clerical perception** to conduct statistical analyses and compile results
- **Innovative interest** in **co-ordinating** information to develop questionnaires and interpret statistics
- **Directive interest** in compiling and interpreting statistics on social issues and policies
- **Social interest** in **consulting** to conduct surveys and advise on social issues and policies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8

- A bachelor's degree or college diploma in a social science or related discipline or in business administration is usually required.
- A master's degree in a social science or related discipline or in business administration may be required.

Workplaces/Employers

Consulting firms

Educational institutions

Government departments and agencies

Hospitals

Industry

International organizations

Non-governmental organizations

Professional associations

Research institutes

Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Community and Social Service Workers (4212)

Economists and Economic Policy Researchers and Analysts (4162)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Health Policy Researchers, Consultants and Program Officers (4165)

Non-government managers in social policy (in 0314 *Managers in Social, Community and Correctional Services*)

Social Workers (4152)

4164.6 Social Services Planners

Social services planners conduct research, develop social programs and assess, co-ordinate and develop awareness of existing social services.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, 8

Examples of Job Titles

social services planner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research in order to develop and assess social services programs
- **Verbal ability** to communicate research findings, policies and programs both orally and in writing
- **Innovative interest in co-ordinating** information to conduct research and develop social programs; and to assess existing social services
- **Directive interest** in administering and co-ordinating social services; and in developing programs to increase public awareness of existing social services
- **Social interest in consulting** with land use planners, other professionals and community groups to determine the impact of major land use plans for transportation, housing and recreational facilities projects, and to ensure that duplication of services is avoided

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, 8

- A bachelor's degree or college diploma in a social science or related discipline or in business administration is usually required.
- A master's degree in a social science or related discipline or in business administration may be required.

Workplaces/Employers

Consulting firms

Educational institutions

Government departments and agencies

Hospitals

Industry

International organizations

Non-governmental organizations

Professional associations

Research institutes

Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Business Development Officers and Marketing Researchers and Consultants (4163)

Community and Social Service Workers (4212)

Economists and Economic Policy Researchers and Analysts (4162)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Health Policy Researchers, Consultants and Program Officers (4165)

Non-government managers in social policy (in 0314 *Managers in Social, Community and Correctional Services*)

Social Workers (4152)

4165 Health Policy Researchers, Consultants and Program Officers

Health policy researchers, consultants and program officers conduct research, produce reports and administer health care policies and programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	2	3	3	2	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, 8+

Examples of Job Titles

consultant, drug and alcohol abuse
consultant, health care
consultant, mental health programs
health care planner
health promotion program officer
health services researcher
planning officer, child health care programs
policy development officer, nursing homes
research analyst, health policy

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist in developing government health policy by reviewing literature, conducting interviews, and collecting and analyzing statistical data; and to monitor and evaluate health care programs operated by government departments and agencies, and private organizations
- **Verbal ability** to present the views of associations and organizations to politicians, government officials, the media and the public, and to respond to internal and external program and policy information requests
- **Numerical ability and clerical perception** to compile, analyze and report statistical information provided by private and public health care institutions and organizations
- **Innovative interest** in producing newsletters, magazines and other documents to provide information to members of associations and organizations, and to the public; and in designing health projects and programs
- **Methodical interest** in **co-ordinating** information to maintain, update and manage health care information databases, to assess compliance to health standards and identify remedial action if necessary, and to conduct evaluations and assessments of health projects and programs
- **Directive interest** in **consulting** with clients in private organizations, and government departments and agencies; in providing advice to senior managers and officials on issues such as health promotion, regulations, standards and financing; and in implementing health projects and programs

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, 8+

- A bachelor's degree or college diploma in health science, public administration, recreation administration, or hospital administration or a bachelor's degree in social science is required.
- A graduate degree in health, social science or an administrative discipline may be required.
- Several years of experience in the health field as a health care professional or as a community or social service worker are usually required.

Workplaces/Employers

Community agencies
 Consulting firms
 Educational institutions
 Government departments and agencies
 Hospitals
 International organizations
 Non-governmental organizations
 Professional associations
 Research institutes
 Universities

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

Community and Social Service Workers (4212)

Education Policy Researchers, Consultants and Program Officers (4166)

Government Managers – Health and Social Policy Development and Program Administration (0411)

Managers in Health Care (0311)

Social Policy Researchers, Consultants and Program Officers (4164)

Remarks

Health policy researchers, consultants and program officers may specialize in a particular area of health policy development, research or program administration such as addiction research.

4166

Education Policy Researchers, Consultants and Program Officers

Education policy researchers, consultants and program officers conduct research, produce reports and administer elementary, secondary and post-secondary educational policies and programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

co-ordinator, special education
curriculum developer
curriculum planner
education consultant
education outreach program co-ordinator
education policy officer
education program co-ordinator
education program officer
education researcher
language assessor
supervisor, education policy

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to evaluate curriculum and recommend improvements, and to determine cost and effectiveness of educational policies and programs
- **Verbal ability** to produce reports and provide consultative services to teachers and other professionals throughout the public and private sector; and to deliver presentations at conferences, workshops and symposia
- **Innovative interest** in conducting research, developing the structure, content and objectives of new programs, and creating teaching materials and other resources for program delivery
- **Methodical interest** in co-ordinating information to conduct statistical analyses; and in administering educational policies and programs; may administer specialized testing and assessment programs
- **Directive interest** in consulting to provide ongoing professional development and training to teachers; may supervise the work of other policy researchers, consultants and program officers

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+, 8+, R

- A bachelor's degree in education or in a discipline such as social science or business administration is required.
- A master's degree in education may be required.
- Specialized training or certification may be required.
- Several years of experience as a school teacher are usually required.
- A teacher's certificate for the province of employment is usually required when employed by provincial education ministries.

Workplaces/Employers

Educational organizations
Government departments
Non-governmental organizations
Professional associations
Research institutes
School boards
Self-employment

Occupational Options

Progression to managerial positions is possible with experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Educational Counsellors (4143)

Elementary School and Kindergarten Teachers (4142)

Government Managers – Education Policy Development and Program Administration (0413)

Psychology research assistants, non-university (in 4164 *Social Policy Researchers, Consultants and Program Officers*)

Secondary School Teachers (4141)

4167.1 Kinesiologists

Kinesiologists conduct fitness and human movement tests and assessments. They design and implement programs to maintain, rehabilitate or enhance movement and performance in the areas of sports, recreation, work and exercise.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	4	3	4	4

INTERESTS

SDI

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	4	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8

Examples of Job Titles

kinesiologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply knowledge of human movement in order to evaluate health-related matters and recommend solutions in industrial, educational, rehabilitation and social settings
- **Verbal ability** to inform groups and individuals on ways to prevent common sports injuries
- **Spatial and form perception** to assess interactions between people, equipment and the work environment, and to assist in the rehabilitation of sports injuries
- **Social interest in consulting** with individuals to provide information on lifestyles and methods to improve fitness, and in providing recommendations to enhance occupational health and safety
- **Directive interest in handling** equipment to deliver programs that maintain, rehabilitate or enhance movement and performance; and in conducting fitness and human movement tests and assessments
- **Innovative interest in co-ordinating** information to design, organize and implement therapeutic fitness programs

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7, 8

- Kinesiologists usually require a university degree in kinesiology.

Workplaces/Employers

Community centers
Federal government
Health and sports organizations
Municipal governments
Provincial governments
Recreational institutions
Self-employment
Sports and fitness consulting firms

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4167.2 Fitness Consultants

Fitness consultants provide consulting services related to physical fitness activities and programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	3	3	4	3	4	4

INTERESTS

SDI

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	4	2	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

fitness consultant

personal trainer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to test clients' physical fitness, design individual fitness programs and provide fitness counselling to the public
- **Verbal ability** to lecture to community groups, sports organizations, schools, and other organizations and institutions on the importance of physical fitness
- **Numerical ability** to measure and record clients' bodily proportions, weight and body mass index
- **Social interest in consulting** to advise community groups, corporations, schools and other organizations in the design and development of fitness programs and activities
- **Directive interest in handling** equipment to train fitness instructors and leaders of exercise classes, and to demonstrate use of equipment and exercises
- **Innovative interest in co-ordinating** information to design programs for individuals and groups with specific health problems and fitness requirements, and to develop training materials for instructors and leaders; may develop national and provincial programs to increase awareness and encourage public participation

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, R

- A university degree in recreation administration, sports administration, physical education, kinesiology or related discipline combined with some work experience in a related field
or
a college diploma in a recreation, sports or fitness program combined with some experience in a related field is usually required.
- A Certified Fitness Appraiser certificate may be required for fitness consultants.

Workplaces/Employers

Community centers
Federal government
Health and sports organizations
Municipal governments
Provincial governments
Recreational institutions
Self-employment
Sports and fitness consulting firms

Occupational Options

Mobility among recreation, sports and fitness consultants may be restricted within an individual area of expertise.

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4167.3 Recreation Consultants

Recreation consultants provide consulting services, conduct research, and develop programs and policies related to recreation.

<

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to advise and consult on the design and development of recreational programs and activities
- **Verbal ability** to understand technical terms when researching reports and writing policies
- **Numerical ability** to prepare budgets and participate in the administration of funds
- **Social interest in consulting** to advise communities, corporations, institutions and other organizations on the design and development of recreational programs and activities
- **Directive interest in co-ordinating** the delivery of programs to organizations
- **Innovative interest in handling** equipment to develop workshops and programs to improve the management, training and planning skills of recreation staff and volunteers; and in assessing the needs of client groups in order to determine and design recreational approaches to meet those needs

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A university degree in recreation administration, sports administration, physical education, kinesiology or related discipline combined with some work experience in a related field *or* a college diploma in a recreation, sports or fitness program combined with some experience in a related field is usually required.

Workplaces/Employers

Community centres
Federal government
Health and sports organizations
Municipal governments
Provincial governments
Recreational institutions
Self-employment
Sports and fitness consulting firms

Occupational Options

Mobility among recreation, sports and fitness consultants may be restricted within an individual area of expertise.

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4167.4 Recreation, Sports and Fitness Policy Analysts

Recreation, sports and fitness policy analysts develop policies related to recreation, sports and physical fitness.

</

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct research and develop government policies related to recreation, sports and fitness
- **Verbal ability** to understand technical terms when researching reports and writing policies
- **Numerical ability** to conduct and present statistical analyses
- **Social interest** in **consulting** with governments and organizations involved in recreation, sports and fitness to conduct research and write policies
- **Directive interest** in **co-ordinating** information to develop policies
- **Innovative interest** in conducting background research and analyses to develop recreational, sports and fitness policies

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A university degree in recreation administration, sports administration, physical education, kinesiology or related discipline combined with some work experience in a related field
or
a college diploma in a recreation, sports or fitness program combined with some experience in a related field is usually required.

Workplaces/Employers

Community centers
Federal government
Health and sports organizations
Municipal governments
Provincial governments
Recreational institutions
Self-employment
Sports and fitness consulting firms

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4167.5 Recreation and Sports Program Supervisors

Recreation and sports program supervisors oversee and administer programs and activities related to recreation, sports and physical fitness.

Profile Summary										Examples of Job Titles									
APTITUDES										camp co-ordinator fitness supervisor sports program supervisor									
G	V	N	S	P	Q	K	F	M											
3	3	3	3	3	3	4	4	4											
INTERESTS																			
SDI																			
DATA PEOPLE THINGS (DPT)																			
128																			
PHYSICAL ACTIVITIES (PA)																			
V	C	H	B	L	S														
3	0	2	4	0	1														
ENVIRONMENTAL CONDITIONS (EC)																			
L1																			
EDUCATION/TRAINING																			
6+, 7+, R																			

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, organize and direct sports, social, cultural, youth, camp, special needs and other recreational programs
- **Verbal ability** to prepare program evaluation reports
- **Numerical ability** to assist in the preparation of budgets
- **Social interest in consulting** to provide recreational and sports information to community groups and the media; may instruct in recreational and sports activities
- **Directive interest in co-ordinating** the activities of leaders and instructors to implement training programs and workshops; and in recruiting volunteer and paid program leaders and instructors
- **Innovative interest** in developing sports, fitness and recreational programs for leaders and instructors

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 6+, 7+, R

- A university degree in recreation administration, sports administration, physical education, kinesiology or related discipline combined with some work experience in a related field *or* a college diploma in a recreation, sports or fitness program combined with some experience in a related field is usually required.
- Recreation and sports program supervisors require experience as a program leader or instructor in recreation and sports.
- Certification in program specialization, such as fitness or lifesaving, may also be required.

Workplaces/Employers

Community centers
Federal government
Health and sports organizations
Municipal governments
Provincial governments
Recreational institutions
Self-employment
Sports and fitness consulting firms

Occupational Options

Recreation and sports program supervisors may progress to recreation and sports management positions with experience.

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4167.6 Sports Consultants

Sports consultants advise and consult on the design and development of sports programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	3	3	3	4	4	4

INTERESTS

SDI

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

sports consultant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to advise and consult with sports associations and other organizations on the design, development and administration of sports programs and activities
- **Verbal and numerical ability** to negotiate financial assistance for associations from government agencies
- **Social interest in consulting** to provide administrative and management advice to associations on the effective use of staff and resources
- **Directive interest in co-ordinating** information to mediate and facilitate interaction among associations, communities, government agencies and other groups when developing programs and activities
- **Innovative interest** in designing programs that meet the needs of participants at all levels of sports

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A university degree in recreation administration, sports administration, physical education, kinesiology or related discipline combined with some work experience in a related field
or
a college diploma in a recreation, sports or fitness program combined with some experience in a related field is usually required.

Workplaces/Employers

Community centres
Federal government
Health and sports organizations
Municipal governments
Provincial governments
Recreational institutions
Self-employment
Sports and fitness consulting firms

Occupational Options

Mobility among recreation, sports and fitness consultants may be restricted within individual area of expertise.

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4167.7 Fitness Appraisers

Fitness appraisers conduct fitness tests and assessments and design, develop and deliver fitness counselling.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	3	3	4	3	4	4

INTERESTS

SDI

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	4	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

fitness appraiser

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess clients' physical fitness, design individual fitness programs and provide fitness counselling to the public
- **Verbal ability** to inform individuals on ways to improve and maintain physical fitness
- **Numerical ability** to measure and record clients' bodily proportions, weight and body mass index
- **Social interest in consulting** to advise individuals on the results of fitness tests and assessments and provide information on lifestyle and methods to improve fitness and control weight
- **Directive interest in handling** equipment to deliver exercise programs; and in conducting fitness tests and assessments
- **Innovative interest in co-ordinating** information to design, develop and deliver fitness programs

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A university degree in recreation administration, sports administration, physical education, kinesiology or related discipline combined with some work experience in a related field
or
a college diploma in a recreation, sports or fitness program combined with some experience in a related field is usually required.
- A Certified Fitness Appraiser certificate may be required.

Workplaces/Employers

Community centers
Federal government
Health and sports organizations
Municipal governments
Provincial governments
Recreational institutions
Self-employment
Sports and fitness consulting firms

Occupational Options

Mobility among recreation, sports and fitness consultants may be restricted within an individual area of expertise.

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4167.8 Exercise Therapists

Exercise therapists conduct fitness tests and assessments and design, develop and deliver rehabilitative exercise programs in occupational and health related settings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	3	3	4	3	4	4

INTERESTS

SDI

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	4	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

exercise physiologist

exercise therapist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply knowledge of human movement in order to design, develop and deliver rehabilitative exercise programs
- **Verbal ability** to instruct individuals on techniques to rehabilitate physical injuries
- **Numerical ability** to measure and record clients' weight and bodily proportions
- **Social interest in consulting** to advise clients on individualized rehabilitative exercise programs; and in providing recommendations to enhance occupational health and safety
- **Directive interest in handling** equipment to deliver rehabilitative exercise programs; and in conducting fitness tests and assessments
- **Innovative interest in co-ordinating** information to design, develop and implement rehabilitative exercise programs

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A university degree in recreation administration, sports administration, physical education, kinesiology or related discipline combined with some work experience in a related field
or
a college diploma in a recreation, sports or fitness program combined with some experience in a related field is usually required.

Workplaces/Employers

Community centres
Health and sports organizations
Recreational institutions
Self-employment
Sports and fitness consulting firms

Occupational Options

Mobility among recreation, sports and fitness consultants may be restricted within an individual area of expertise.

Similar Occupations Classified Elsewhere

Program Leaders and Instructors in Recreation and Sport (5254)

Recreation and Sports Program and Service Directors (0513)

4168 Program Officers Unique to Government

Program officers in this group are primarily concerned with the administration and operation of government institutions, such as Parliament, and activities unique to the operation of government such as international relations, federal-provincial affairs and elections.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

DIS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7, 8, +

Examples of Job Titles

attaché
elections officer
federal-provincial relations officer
foreign service officer
intergovernmental affairs officer
officer, office of the Speaker
officer, royal commission
officer, standing or select committee
protocol officer
returning officer
tribunal officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to organize the activities unique to the operation of government and to plan intergovernmental meetings and conferences with officers of other municipal, provincial and federal governments
- **Verbal ability** to explain Canadian foreign and domestic policies to governments and nationals of foreign countries
- **Directive interest in co-ordinating** information to organize the logistics and administration of elections within constituencies and to ensure that electoral and voting procedures are followed; and in planning logistics and overseeing diplomatic protocol of official visits to Canada by foreign politicians and dignitaries
- **Innovative interest** in co-ordinating administrative support services for legislative committees, royal commissions and tribunals
- **Social interest in consulting** with and advising politicians and diplomats on the social, economic and political effects of government decisions on other governments in Canada and abroad

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7, 8, +

- A bachelor's degree is usually required.
- A master's degree may be required.
- Several years of experience as a researcher, consultant or program administrator may be required.
- Foreign service officers are accepted on the basis of competitive examination.

Workplaces/Employers

Primary government institutions

Similar Occupations Classified Elsewhere

*Administrative Officers (1221)**Court Officers and Justices of the Peace (1227)**Economists and Economic Policy Researchers and Analysts (4162)**Executive Assistants (1222)**Immigration, Employment Insurance and Revenue Officers (1228)**Social Policy Researchers, Consultants and Program Officers (4164)*

4169.1 Anthropologists

Anthropologists conduct studies of the origin, development and functioning of human societies and cultures, and of human evolution, physical characteristics and geographical distribution.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	3	4	4	4	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, D4

EDUCATION/TRAINING

8

Examples of Job Titles

anthropologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in the field of anthropology in order to conduct research into the origins of human societies and cultures
- **Verbal ability** to understand and use terms associated with anthropological research and to communicate ideas through reports, presentation and publications
- **Innovative interest in co-ordinating** information to gather and analyze data on social and cultural behaviour, artifacts, language and human biology, and to undertake comparative studies of societies and cultures, or of selected aspects of cultures, of living people and of peoples no longer in existence
- **Directive interest in consulting** to report on data; may teach anthropology at advanced educational levels
- **Methodical interest** in reconstructing records of extinct cultures by studying remains obtained from archaeological excavations

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Discomforts

- D4 Non-toxic dusts

Employment Requirements

Education/Training

8

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Psychologists (4151)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within this occupation.

4169.2 Archaeologists

Archaeologists study artifacts to reconstruct the economic, social, political and intellectual lives of past societies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	3	4	4	4	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	4	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, D4

EDUCATION/TRAINING

8

Examples of Job Titles

archaeologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in the field of archaeology
- **Verbal ability** to study archival documents, review books and papers, write proposals and prepare papers, articles and summaries concerning research activities
- **Numerical ability** to prepare budgets and funding applications
- **Innovative interest in co-ordinating** information to interpret the significance of archaeological finds by determining the importance of the history conveyed by artifacts and the extent to which they reflect the lives of the peoples who produced them
- **Directive interest in consulting** with authorities to provide advice concerning the search for the remains of buildings and the collection, identification and preservation of artifacts; and in selecting site locations and overseeing excavations
- **Methodical interest in handling** artifacts to examine and classify them, and to determine authenticity and identity

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Discomforts
D4 Non-toxic dusts

Employment Requirements

Education/Training
8

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within this occupation.

4169.3 Geographers

Geographers study and analyze the spatial distribution and interrelationships of physical, biological, cultural and social patterns.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	2	4	4	4	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

127

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L4*

EDUCATION/TRAINING

8

Examples of Job Titles

geographer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in geography in order to analyze spatial distribution of physical, biological and cultural patterns on the earth
- **Verbal ability** to understand and use terms associated with geography, and to communicate through reports, presentations and publications
- **Numerical ability** to measure, analyze and interpret statistical data and remote sensing information
- **Innovative interest in co-ordinating** information to analyze data, and to incorporate in studies knowledge from related fields such as geology, biology, meteorology, economics, demography, political science, sociology and history
- **Directive interest in consulting** with governments and international, educational, industrial and other organizations on how to determine administrative and political boundaries, how to measure, evaluate and control environmental pollution, and how to assess actual and potential land uses, remote sensing applications and census design; and in compiling and designing maps and atlases
- **Methodical interest in handling** equipment to collect, observe and measure data and remote sensing information

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L4* In a vehicle or cab

Employment Requirements

Education/Training
8

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Economists and Economic Policy Researchers and Analysts (4162)

Mathematicians, Statisticians and Actuaries (2161)

Psychologists (4151)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within this occupation.

*Environmental Conditions

- For this occupation, Location L4 (In a vehicle or cab) may also apply.

4169.4 Historians

Historians conduct research into phases and aspects of past human activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	3	4	4	4	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

historian

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in history in order to conduct research into phases and aspects of human activities
- **Verbal ability** to study and understand the works of other historians and related researchers, and to present findings and conclusions both orally and in writing
- **Innovative interest** in **co-ordinating** information to organize, authenticate and evaluate historical data
- **Directive interest** in **consulting** with other historians on research findings, and in advising individuals, institutions and commercial organizations on historical information; may teach history at advanced educational levels
- **Methodical interest** in consulting various sources of information such as archives, libraries, diaries and newspaper files, and in documenting findings

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
8

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Economists and Economic Policy Researchers and Analysts (4162)

Psychologists (4151)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within this occupation.

4169.5 Linguists

Linguists study the origin, structure and development of languages.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	3	4	4	4	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

linguist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in linguistics in order to study the development of languages and to apply linguistic theory to problems in teaching, translation and communications
- **Verbal ability** to understand, analyze and describe ancient and modern languages and language families
- **Innovative interest in co-ordinating** information to reconstruct and decipher ancient languages and to investigate computer applications in language studies and communications
- **Directive interest in consulting** with other linguists and related professionals concerning research activities; and to advise government on language programs
- **Methodical interest** in identifying and classifying ancient and modern languages according to their families and origins, and in recording previously written languages in standardized written form

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Mathematicians, Statisticians and Actuaries (2161)

Psychologists (4151)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within this occupation.

4169.6 Political Scientists

Political scientists conduct research into the theory, origin, development, interrelationships and functioning of political institutions, political movements and individual political behaviour.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	1	3	4	4	4	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

political scientist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in political science in order to conduct research into fields such as political philosophy, theory and practice of political systems and institutions, public administration, political parties, development of public opinion, international relations and the relations of government and business
- **Verbal ability** to present and publish results and conclusions of research on topics in political science to institutions and organizations
- **Innovative interest in co-ordinating** information to analyze, synthesize and interpret surveys and other research data relating to political institutions and practices
- **Directive interest in consulting** with other political scientists and related researchers; and in planning and directing public opinion surveys
- **Methodical interest** in assembling research data by studying literature and the works of other researchers and in observing the workings of contemporary political institutions and organizations

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	0	Not relevant
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
----------	----	--------------------------

Employment Requirements

Education/Training	8
<ul style="list-style-type: none"> A master's or doctoral degree in the discipline is usually required. 	

Workplaces/Employers

Establishments throughout the private and public sectors
Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

<i>College and Other Vocational Instructors (4131)</i>
<i>Economists and Economic Policy Researchers and Analysts (4162)</i>
<i>Psychologists (4151)</i>
<i>Secondary School Teachers (4141)</i>
<i>Social Policy Researchers, Consultants and Program Officers (4164)</i>
<i>University Professors (4121)</i>

Remarks

Specialization usually exists within this occupation.

4169.7 Psychometricians and Psychometrists

Psychometricians develop psychological tests, scales and measures, and may administer or apply and interpret such tests, scales and measures. Psychometrists administer and score psychological tests, usually under the supervision of a registered psychologist.

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply theories, principles and methods of psychological testing and to make judgements when interpreting test data
- **Verbal ability** to understand and use technical terms associated with administering tests of intelligence, aptitude, achievement and other psychological characteristics
- **Numerical ability** to calculate test scores, and to establish standard test norms and limitations in terms of validity and reliability
- **Innovative interest in co-ordinating** information to interpret results in relation to factors such as teaching, learning, motivation, counselling, personality, attitude and physiological reactions; and to develop psychological tests, scales and measures
- **Directive interest in instructing** people when administering and applying psychological tests, scales and measures
- **Methodical interest in handling** testing equipment to administer tests; and in recording and compiling test scores and data in psychological experiments and research

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

8

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Mathematicians, Statisticians and Actuaries (2161)

Psychologists (4151)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within this occupation.

4169.8 Sociologists

Sociologists study the development, structure, social patterns and interrelationships of human societies.

Profile Summary									
APTITUDES									
G	V	N	S	P	Q	K	F	M	
1	1	3	4	4	4	4	4	4	
INTERESTS									
IDM									
DATA PEOPLE THINGS (DPT)									
128									
PHYSICAL ACTIVITIES (PA)									
V	C	H	B	L	S				
2	0	2	1	0	1				
ENVIRONMENTAL CONDITIONS (EC)									
L1									
EDUCATION/TRAINING									
8									

Examples of Job Titles

sociologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in the field of sociology in order to study social patterns and phenomena such as the family, the community, education, industrial relations, crime, politics, minority and ethnic relations, poverty and mass communications
- **Verbal ability** to understand and use sociological terms to prepare and present data, conclusions and recommendations for governments, educational institutions, industry, welfare organizations and other interested bodies
- **Innovative interest** in co-ordinating information to devise methods of collecting and analyzing data; and to interpret data and correlate findings with other research in the field of sociology and related fields
- **Directive interest** in consulting with governments and other organizations to report findings and bring forward recommendations; may teach sociology at advanced educational levels
- **Methodical interest** in organizing data into forms suitable for application by governments and other organizations

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction

Body Position	
1	Sitting

Limb Co-ordination	
0	Not relevant

Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training	
8	

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Economists and Economic Policy Researchers and Analysts (4162)

Mathematicians, Statisticians and Actuaries (2161)

Psychologists (4151)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within this occupation.

4169.9 Other Social Science Professionals

Other social science professionals included in this group specialize in particular areas of social sciences and humanities disciplines.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	3	4	4	4	4	4	4

INTERESTS

IDM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

criminologist
gerontologist
graphoanalyst

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, acquire and apply principles, theories and methods of study in social science fields such as criminology in order to study crime and criminals, gerontology which focuses on the phenomena and problems of ageing, graphoanalysis to study and analyze handwriting, and others
- **Verbal ability** to present results and conclusions of research to institutions and organizations, and to publish on social science topics
- **Innovative interest in co-ordinating** information to devise methods of collecting and analyzing data and to interpret data and correlate findings with other research in the same and related fields
- **Directive interest in consulting** with governments and other organizations to report findings and bring forward recommendations; may teach at advanced educational levels
- **Methodical interest** in organizing data into forms suitable for application by governments and other organizations

Physical Activities

Vision	2	Near vision
Colour Discrimination	0	Not relevant
Hearing	2	Verbal interaction
Body Position	1	Sitting
Limb Co-ordination	0	Not relevant
Strength	1	Limited

Environmental Conditions

Location	L1	Regulated inside climate
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Employment Requirements

Education/Training
8

- A master's or doctoral degree in the discipline is usually required.

Workplaces/Employers

Establishments throughout the private and public sectors

Universities

Occupational Options

Specialization within this occupation occurs through specialized university study or through experience.

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Economists and Economic Policy Researchers and Analysts (4162)

Mathematicians, Statisticians and Actuaries (2161)

Psychologists (4151)

Secondary School Teachers (4141)

Social Policy Researchers, Consultants and Program Officers (4164)

University Professors (4121)

Remarks

Specialization usually exists within these occupations.

4211.1 Legal Assistants and Paralegals

Legal assistants and paralegals prepare documents, maintain records and files and conduct research to assist lawyers or other professionals.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

MSI

DATA PEOPLE THINGS (DPT)

378

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5, 6, 7

Examples of Job Titles

commercial law clerk
corporate paralegal
family law paralegal
land titles examiner
law clerk
legal assistant
legal researcher
litigation legal assistant
paralegal
real estate law clerk
title searcher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research records, court files and other legal documents in order to assist lawyers
- **Verbal ability** to discuss details of legal matters with clients and supervisors, and prepare trial briefs
- **Clerical perception** to prepare legal documents, court reports and affidavits, draft legal correspondence and perform general office and clerical duties
- **Methodical interest** in **compiling** information when searching for and studying records and documents
- **Social interest** in **assisting** lawyers by interviewing clients, witnesses and other related parties, and arranging for trials
- **Innovative interest** in researching records, court files and other legal documents, and assembling documentary evidence

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 5, 6, 7

- Legal assistants and paralegals in law firms require a bachelor's degree in law or a college diploma in a legal assistant or law clerk program *or* in-house training from a law firm or other legal establishment.

Workplaces/Employers

Law firms

Legal departments throughout the private and public sectors

Record search companies

Similar Occupations Classified Elsewhere

Articling students, Quebec notaries and trademark lawyers (in 4112 *Lawyers and Quebec Notaries*)

Legal Secretaries (1242)

Patent agents (in 4161 *Natural and Applied Science Policy Researchers, Consultants and Program Officers*)

4211.2 Notaries Public

Notaries public administer oaths, take affidavits, sign legal documents and perform other activities according to the limitations of their appointment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	4	4	3	4	4	4

INTERESTS

MDS

DATA PEOPLE THINGS (DPT)

368

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, R

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to draw up deeds, contracts, mortgages, wills and other legal documents

- **Verbal ability** to administer oaths and take affidavits and depositions
- **Clerical perception** to draft contracts, prepare promissory notes and draw up wills, mortgages and other legal documents
- **Methodical interest** in **compiling** information to witness and certify signatures on documents

- **Directive interest** in administering estates of deceased persons and in arranging probates
- **Social interest** in **speaking** to represent clients in non-contentious proceedings such as appointing guardians, settling estates, satisfying such liabilities as taxes and debts, and searching and clearing of property titles

Examples of Job Titles

notary public

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+, R

- Notaries public usually receive in-house training.
- Notaries public are appointed after examination and certification of their qualifications by the governing judiciary in their province or territory. All appointments have specific limitations on the activities they can perform and for specific periods of time.
- Notaries public require a provincial licence. In British Columbia, membership in the Society of Notaries Public is also required.

Workplaces/Employers

Law firms

Legal departments throughout the private and public sectors

Similar Occupations Classified Elsewhere

Articling students, Quebec notaries and trademark lawyers (in 4112 *Lawyers and Quebec Notaries*)

Legal Secretaries (1242)

Patent agents (in 4161 *Natural and Applied Science Policy Researchers, Consultants and Program Officers*)

Remarks

Notaries public perform their duties in rural or remote areas or in the business offices in which they are employed.

4211.3 Trademark Agents

Trademark agents advise clients on intellectual property matters.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

Mds

DATA PEOPLE THINGS (DPT)

368

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 8+, R

Examples of Job Titles

trademark agent

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research, prepare and present applications for registration of trademarks
- **Verbal ability** to understand and interpret trademark laws and regulations to clients
- **Clerical perception** in preparing documents related to transfers and assignments of trademarks, changes of agent and other related matters
- **Methodical interest in compiling** information to advise on the registrability of trademarks, trademark licensing requirements, transfer of intellectual property and protection of existing trademark rights
- **Directive interest** in providing advice to clients on intellectual property matters
- **Social interest in speaking** with clients to represent them before the Registrar of Trade-Marks on matters including prosecution of applications for registration of trademarks and at proceedings before the Trade Marks Opposition Board and in related proceedings; may represent clients internationally in consultation with foreign associates and attorneys

Physical Activities

Vision	
2	Near vision
Colour Discrimination	
0	Not relevant
Hearing	
2	Verbal interaction
Body Position	
1	Sitting
Limb Co-ordination	
0	Not relevant
Strength	
1	Limited

Environmental Conditions

Location	
L1	Regulated inside climate

Employment Requirements

Education/Training
5+, 8+, R

- To be licensed, trademark agents are required to work in the area of trademark law, including the preparation and prosecution of trademark applications for registration, for two years
and
to successfully complete the examination conducted jointly by the Intellectual Property Institute of Canada and the Registrar of Trade-Marks, Canadian Intellectual Property Office
or
either one of the above and be a lawyer entitled to practise in Canada.
- Trademark agents require registration with the federal Trade-Mark Office.

Workplaces/Employers

Law firms

Legal departments throughout the private and public sector

Self-employment

Trademark development and searching firms

Similar Occupations Classified Elsewhere

Articling students, Quebec notaries and trademark lawyers (in 4112 *Lawyers and Quebec Notaries*)

Legal Secretaries (1242)

Patent agents (in 4161 *Natural and Applied Science Policy Researchers, Consultants and Program Officers*)

4211.4 Independent Paralegals

Independent paralegals provide legal services to the public as allowed by government legislation, and provide paralegal services on contract to law firms and other establishments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	4	4	3	4	4	4

INTERESTS

SMD

DATA PEOPLE THINGS (DPT)

328

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 6

Examples of Job Titles

independent paralegal

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to take legal action on landlord and tenant matters, traffic violations, name changes and other issues within their jurisdictions
- **Verbal ability** to discuss details of legal matters with clients
- **Clerical perception** to draft briefs, pleadings, contracts, mortgages and other documents
- **Social interest** in locating and interviewing witnesses
- **Methodical interest** in compiling information to search and study records, documents and information
- **Directive interest** in consulting with and advising clients; and in representing clients in small claims court and other court proceedings at tribunals and before administrative bodies

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4, 6

- Independent paralegals require knowledge of legal principles and procedures usually obtained through industry-sponsored courses and through experience, or upon completion of a community college paralegal program.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Articling students, Quebec notaries and trademark lawyers (in 4112 *Lawyers and Quebec Notaries*)

Legal Secretaries (1242)

Patent agents (in 4161 *Natural and Applied Science Policy Researchers, Consultants and Program Officers*)

4212 Community and Social Service Workers

Community and social service workers administer and implement a variety of social assistance programs and community services, and assist clients in dealing with personal and social problems.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	4	4	4

INTERESTS

SMi

DATA PEOPLE THINGS (DPT)

328

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

2, 6, 7, R

Examples of Job Titles

Aboriginal outreach worker
addictions worker
behavioural aide
child and youth worker
community service worker
crisis intervention worker
drop-in centre worker
family service worker
financial assistance worker
group home worker
life skills instructor
rehabilitation worker
social service worker
veteran services officer
welfare and compensation officer
women's shelter supervisor
youth worker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess and investigate clients' eligibility for social benefits and to assist in evaluating the effectiveness of treatment programs by tracking clients' behavioural changes and responses to interventions
- **Verbal ability** to interview clients in order to obtain case histories and background information, to meet with clients to discuss problems and assess their progress, and to provide support and crisis intervention
- **Numerical ability and clerical perception** to maintain program statistics for purposes of evaluation and research and to prepare intake reports
- **Social interest in consulting** with social assistance recipients and pensioners to advise and aid them in locating and utilizing a variety of community resources; in referring clients to other social services; in counselling clients living in group homes and halfway houses and assisting in pre-release and release planning; in providing crisis intervention and emergency-shelter services; and in co-ordinating volunteer activities of community and social services organizations
- **Methodical interest in compiling** information to participate in the selection and admission of clients to appropriate programs; to assess clients' relevant skill strengths and deficits; and in maintaining contact with other social service agencies and health care providers involved with clients to provide information and obtain feedback on clients' overall progress
- **Innovative interest** in assisting clients to sort out options and develop plans of action, and in implementing and organizing the delivery of life-skills workshops, substance-abuse treatment programs, behaviour management programs, youth services programs and other community and social service programs under the supervision of social workers and health care professionals

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

2, 6, 7, R

- Completion of a college or university program in social work, child and youth care, counselling or another social science or health-related discipline is usually required.
- Previous work experience in a social service environment as a volunteer, or in a support capacity, may replace formal educational requirements for some occupations in this group.
- Social service workers may be required to be a member of a provincial regulatory body in some provinces.

Workplaces/Employers

Community organizations and establishments

Correctional facilities

Government agencies

Group homes

Mental health agencies

School boards

Social service agencies

Occupational Options

Progression to professional occupations in social services, such as family and marriage counsellors, social workers and probation and parole officers, is possible with additional training and/or experience.

Similar Occupations Classified Elsewhere

*Educational Counsellors (4143)**Employment Counsellors (4213)**Family, Marriage and Other Related Counsellors (4153)**Managers in Social, Community and Correctional Services (0314)**Probation and Parole Officers and Related Occupations (4155)**Program Leaders and Instructors in Recreation and Sport (5254)**Social Workers (4152)*

4213 Employment Counsellors

Employment counsellors provide assistance, counsel and information to clients on all aspects of employment search and career planning. They also provide counsel and information to employers regarding human resource and employment issues.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	4	4	3	4	4	4

INTERESTS

SMI

DATA PEOPLE THINGS (DPT)

328

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4+, 6, 7

Examples of Job Titles

career counsellor
career development consultant
career development counsellor
employment counsellor
occupational counsellor
outplacement counsellor
relocation consultant
relocation counsellor
supervisor, employment counsellors
vocational counsellor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assess clients' needs for assistance such as rehabilitation, financial aid and further vocational training
- **Verbal ability** to interview clients to obtain employment history, educational background and career goals and to assist clients with writing résumés and preparing for job interviews
- **Social interest** in consulting to advise employers on human resources and other employment-related issues; in referring clients to appropriate services; in assisting clients with such matters as job readiness skills and job search strategies; and in providing established workers with information on maintaining a job or moving within an organization, dealing with job dissatisfaction or making a career change
- **Methodical interest** in compiling information to collect labour market information for clients regarding job openings, entry and skill requirements and other occupational information; and in administering tests designed to determine interests, aptitudes and abilities
- **Innovative interest** in interpreting test results and identifying barriers to employment; and in providing consulting services to community groups and agencies, businesses and industry, and to other organizations involved in providing community-based career planning resources

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

1 Sitting

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

4+, 6, 7

- A bachelor's degree or college diploma in a related field, such as psychology, social services or education, is usually required.
- Completion of secondary school and several years of experience in services related to counselling, or in a helping profession, may replace formal education.

Workplaces/Employers

Community agencies

Federal government

Large establishments

Private employment service agencies

Provincial government

Occupational Options

Mobility to positions in personnel or training is possible.

Progression to supervisory positions is possible through experience.

Similar Occupations Classified Elsewhere

Employment Counsellors (4143)

Employment insurance officers (in 1228 *Immigration, Employment Insurance and Revenue Officers*)

Personnel and Recruitment Officers (1223)

Vocational rehabilitation counsellors (in 4153 *Family, Marriage and Other Related Counsellors*)

Remarks

Supervisors of employment counsellors are included in this group.

4214.1 Early Childhood Educators

Early childhood educators plan, organize, and lead activities for pre-school and school-aged children that help to develop their intellectual, physical and emotional growth. This group includes early childhood educators who are supervisors.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	4	4	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

327

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6, 7, R

Examples of Job Titles

child-care worker, day care
day-care supervisor
day-care worker
early childhood educator
early childhood supervisor
pre-school supervisor
pre-school teacher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, develop, organize and implement daily activities for children, and to observe children for signs of learning disabilities or emotional problems
- **Verbal ability** to discuss progress or problems of children with parents and other staff members, and to attend meetings and workshops to develop and discuss new teaching methods
- **Methodical interest in handling** to prepare and demonstrate the use of craft materials and to demonstrate the use of simple musical instruments
- **Social interest in instructing** and guiding children in the development of proper eating, dressing and personal hygiene; in leading children in activities by telling or reading stories, teaching songs, providing opportunities for creative expression through the mediums of art, dramatic play, music and physical fitness, and taking them to local points of interest
- **Directive interest in compiling** information to develop daily activities for children; may plan and organize activities for school and children in child care programs before and after regular school hours; may supervise and coordinate the activities of other early childhood educators and assistants

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6, 7, R

- A bachelor's degree or college diploma in early childhood education is required.
- First aid certification and CPR (cardiopulmonary resuscitation) training are usually required.

Workplaces/Employers

Centres for exceptional children
Child care centres
Day-care centres
Kindergartens
Nursery schools

Occupational Options

Progression to senior positions, such as day-care supervisor, is possible with experience.

Similar Occupations Classified Elsewhere

Elementary School and Kindergarten Teachers (4142)

Teacher aides (in 6472 *Elementary and Secondary School Teacher Assistants*)

4214.2 Early Childhood Educator Assistants

Early childhood educator assistants supervise pre-school children and, under the supervision of early childhood educators, lead children in activities to stimulate and develop their intellectual, physical and emotional growth.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	4	4	4	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

577

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	2	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

4, 5+, 6+, R

Examples of Job Titles

child-care worker assistant
day-care helper
day-care worker assistant
early childhood assistant
early childhood education worker
early childhood educator assistant
early childhood program staff assistant
pre-school helper

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning and verbal ability** to submit written observations on children to supervisors, and to attend staff meetings to discuss children's progress and problems
- **Social interest in assisting** children in the development of proper eating and dressing habits and personal hygiene
- **Methodical interest in copying** information to assist supervisors in keeping records; in preparing and serving snacks, maintaining day-care equipment and assisting with housekeeping duties; and in arranging rooms and furniture for lunch and rest periods
- **Directive interest in handling** to lead children's activities by telling stories, teaching songs and preparing craft materials; and in conducting and monitoring activity programs designed for young children

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training

4, 5+, 6+, R

- Completion of secondary school is usually required.
- Experience in child care, such as babysitting, is required.
- Completion of an early childhood education assistant certificate program may be required.
- First aid certification and CPR (cardiopulmonary resuscitation) training are usually required.

Workplaces/Employers

Day-care centres

Nursery schools

Similar Occupations Classified Elsewhere

Elementary School and Kindergarten Teachers (4142)

Teacher aides (in 6472 *Elementary and Secondary School Teacher Assistants*)

4215 Instructors and Teachers of Persons with Disabilities

Instructors and teachers of persons with disabilities teach children and adults with physical and developmental disabilities communication techniques such as Braille, sign language and rehabilitation skills to increase their independence and mobility.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	3	3	3

INTERESTS

SMo

DATA PEOPLE THINGS (DPT)

324

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3*	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

instructor, orientation and mobility
job coach for persons with disabilities
rehabilitation instructor
sign language instructor
teacher of Braille
teacher of persons who are blind
teacher of persons who are hearing impaired
teacher of persons who are intellectually impaired
teacher of persons with a physical disability
teacher, rehabilitation

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to evaluate students' abilities and limitations in order to develop teaching programs that will result in maximum progress, to assess needs of students, and to adapt school curriculum and teaching methods to meet students' requirements
- **Verbal ability** to prepare reports on student progress and instruct students with hearing impairments in the formation and development of sounds for speech
- **Social interest in instructing** and assisting individuals with physical disabilities and intellectual impairments to develop life skills, and to encourage classroom discussions that assist students in developing social skills and identifying objects and situations encountered in daily living; and in providing job training and support
- **Methodical interest in compiling** information to instruct students who are deaf or have hearing impairments in lip-reading, finger-spelling and sign language according to individual needs, and to instruct students who are blind or have visual impairments in reading and writing Braille
- **Objective interest in operating** equipment designed to minimize the effects of a disability, such as hearing aids, prosthetic devices, wheelchairs and other devices, in order to instruct individuals with physical disabilities and their families in the use of this equipment; and in advising individuals and their families about rehabilitative techniques

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3* Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

2* Light

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

7+, R

- A bachelor's degree in education, special education, or a related field, such as psychology or social work, is usually required.
- Completion of an appropriate training program in rehabilitation or special education is required.
- Instructors of persons who are blind require certification by the Canadian National Institute for the Blind.
- Teachers who work in a public school system require a provincial teaching certificate.

Workplaces/Employers

Elementary and secondary school systems

Rehabilitation centres

Specialized educational institutions

Similar Occupations Classified Elsewhere

*Early Childhood Educators and Assistants (4214)**Elementary and Secondary School Teacher Assistants (6472)**Elementary School and Kindergarten Teachers (4142)**Secondary School Teachers (4141)*

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) and **Strength 4** (Heavy) may also apply.

4216.1 Driving Instructors

Driving instructors teach motor vehicle and motorcycle driving courses that are outside of educational institutions and not job-related.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	4	4	3	4	3

INTERESTS

SDM

DATA PEOPLE THINGS (DPT)

323

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	2	1	2	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L4

EDUCATION/TRAINING

1+, R

Examples of Job Titles

driving instructor

motorcycle driving instructor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the principles of driving motor vehicles in order to explain and demonstrate operation of brakes, clutches, gear shifts, automatic transmissions, signals and lights
- **Verbal ability** to explain driving techniques to individuals and groups
- **Spatial perception** to supervise individuals during practice driving
- **Motor co-ordination and manual dexterity** to demonstrate motor vehicle operations
- **Social interest in compiling** information to explain and demonstrate the operations of motor vehicles; and to explain traffic regulations and insurance laws
- **Directive interest in instructing** individuals and groups on proper motor vehicle driving skills; and in supervising individuals during practice driving
- **Methodical interest in driving** to demonstrate techniques, handling and operations of motor vehicles

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L4 In a vehicle or cab

Employment Requirements

Education/Training

- 1+, R

- Expertise in the field of instruction must be demonstrated.
- Driving instructors must obtain special licensing as a driving instructor in the province of employment.

Workplaces/Employers

Commercial establishments

Driving schools

Provincial governments

Self-employment

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Elementary School and Kindergarten Teachers (4142)

Secondary School Teachers (4141)

4216.2 Driver's Licence Examiners

Driver's licence examiners conduct road tests and evaluate driving ability of individuals.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	4	3	4	4	4

INTERESTS

DMS

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L4

EDUCATION/TRAINING

1+, R

Examples of Job Titles

driver's licence examiner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand the principles of driving motor vehicles and to evaluate the driving ability of applicants for driver's licences
- **Verbal ability** to explain results of road test examinations to potential drivers
- **Spatial perception** to visualize position and path of own vehicle in relation to surroundings and to judge distances
- **Directive interest in analyzing** written and visual examinations and in rating driving ability for each road test manoeuvre; and in conducting road test examinations
- **Methodical interest** in collecting fees and issuing licences and instruction permits according to test results
- **Social interest in speaking** with drivers to discuss proper driving methods, point out poor driving habits and advise on methods of correction

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L4 In a vehicle or cab

Employment Requirements

Education/Training

- 1+, R

- Expertise in the field of instruction must be demonstrated.
- A valid driver's licence is required.

Workplaces/Employers

Provincial governments

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Elementary School and Kindergarten Teachers (4142)

Secondary School Teachers (4141)

4216.3 Sewing Instructors

Sewing instructors teach sewing courses that are outside of educational institutions and not job-related.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	2	3	4	3	3	3

INTERESTS

SDM

DATA PEOPLE THINGS (DPT)

322

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	3	2	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

1+

Examples of Job Titles

sewing instructor – non-vocational

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to instruct students in techniques of sewing and in the operation and basic maintenance of sewing machines
- **Verbal ability** to conduct classes in sewing and tailoring
- **Spatial and form perception** to demonstrate how to lay-out and pin patterns onto material and how to cut out patterns according to symbols and markings
- **Motor co-ordination** to operate sewing machines and to demonstrate pressing and steaming techniques
- **Finger and manual dexterity** to teach hand-basting, hemming and other basic hand-sewing and stitching techniques
- **Social interest in compiling** information to instruct students on choice of garments; and in explaining fabric types and advising students on selection of fabrics and sewing notions
- **Directive interest in instructing** students in techniques and skills of sewing, tailoring, dressmaking and altering patterns according to body measurements
- **Methodical interest in controlling** the operations of sewing machines to demonstrate button-holing, installation of zippers and other techniques; and in servicing and repairing machines

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

1+

- Expertise in the field of instruction must be demonstrated.

Workplaces/Employers

Commercial establishments

Fabric retailers

Self-employment

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Elementary School and Kindergarten Teachers (4142)

Secondary School Teachers (4141)

4216.4 Modelling and Finishing School Instructors

Modelling and finishing school instructors teach modelling courses that are outside of educational institutions and not job-related.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	4	4	4

INTERESTS

SDM

DATA PEOPLE THINGS (DPT)

328

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	2	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

1+

Examples of Job Titles

instructor, modelling and finishing school

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to observe appearance to determine complexion, figure and posture type
- **Verbal ability** to instruct individuals and groups
- **Spatial and form perception** to instruct students on posture and graceful walking, sitting and other movements
- **Social interest** in advising students on selection of basic wardrobes and choices of hairstyles
- **Directive interest** in instructing students on comportment, personal development, make-up application and modelling techniques for fashion shows and magazine advertising
- **Methodical interest** in compiling information to outline accepted rules of etiquette; and in demonstrating correct posture, sitting, walking and other movements

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

1+

- Expertise in the field of instruction must be demonstrated.

Workplaces/Employers

Commercial establishments

Self-employment

Similar Occupations Classified Elsewhere

College and Other Vocational Instructors (4131)

Elementary School and Kindergarten Teachers (4142)

Secondary School Teachers (4141)

4217 Other Religious Occupations

This group includes brothers, nuns, monks, religious education workers and others who provide support to ministers of religious or to religious communities and who perform certain functions associated with religious practices.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	4	4	4	4

INTERESTS

MSI

DATA PEOPLE THINGS (DPT)

328

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3*	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

3, 4, 5, 6, 7, +

Examples of Job Titles

brother
cantor
Christian science practitioner
deacon
mohel
monk
nun
religious education worker
Salvation Army field worker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to provide religious education, spiritual instruction and guidance, and moral support to members of religious communities
- **Verbal ability** to understand and communicate religious teachings
- **Methodical interest in compiling** information to assist at services of public worship and religious rites; and in performing functions associated with worship and religious practices
- **Social interest in instructing** members in religious education and in promoting participation in extracurricular religious-community activities; and in visiting members' homes to solicit support and participation and to stimulate interest in religious programs
- **Innovative interest** in administering programs providing food, clothing and shelter

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3* Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
3, 4, 5, 6, 7, +

- Requirements range from completion of secondary school education to a university undergraduate degree, depending on the particular occupation and religion.
- There may be other admittance requirements depending on the particular occupation and religion.

Workplaces/Employers

Churches
Institutions such as schools, hospitals and prisons
Places of worship
Synagogues
Temples

Similar Occupations Classified Elsewhere

Ministers of Religion (4154)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) may also apply.

**Occupations in Art,
Culture, Recreation and Sport**



Occupations in Art, Culture, Recreation and Sport

MAJOR GROUP 51

PROFESSIONAL OCCUPATIONS IN ART AND CULTURE

511 Librarians, Archivists, Conservators and Curators

5111 Librarians

5112 Conservators and Curators

5112.1 Conservators

5112.2 Curators

5113 Archivists

512 Writing, Translating and Public Relations Professionals

5121 Authors and Writers

5121.1 Creative Writers

5121.2 Technical Writers

5121.3 Copywriters

5122 Editors

5123 Journalists

5124 Professional Occupations in Public Relations and Communications

5125 Translators, Terminologists and Interpreters

5125.1 Translators

5125.2 Terminologists

5125.3 Interpreters

5125.4 Sign Language Interpreters

513 Creative and Performing Artists

5131 Producers, Directors, Choreographers and Related Occupations

5131.1 Film, Radio and Television Producers

5131.2 Directors

5131.3 Choreographers

5131.4 Art Directors

5131.5 Film Editors

5131.6 Record Producers

5131.7 Directors of Photography

5132 Conductors, Composers and Arrangers

5132.1 Conductors

5132.2 Composers

5132.3 Arrangers

5133 Musicians and Singers

5133.1 Musicians

5133.2 Singers

5133.3 Teachers of Music or Voice

5134 Dancers

5134.1 Dancers

5134.2 Dance Teachers

- 5135 Actors and Comedians
 - 5135.1 Actors and Comedians
 - 5135.2 Acting Teachers
- 5136 Painters, Sculptors and Other Visual Artists
 - 5136.1 Painters
 - 5136.2 Sculptors
 - 5136.3 Art Instructors and Teachers

MAJOR GROUP 52

TECHNICAL AND SKILLED OCCUPATIONS IN ART, CULTURE, RECREATION AND SPORT

521 Technical Occupations in Libraries, Archives, Museums and Art Galleries

- 5211 Library and Archive Technicians and Assistants
 - 5211.1 Library Technicians and Assistants
 - 5211.2 Archive Technicians and Assistants
- 5212 Technical Occupations Related to Museums and Art Galleries
 - 5212.1 Conservation and Restoration Technicians
 - 5212.2 Curatorial Assistants
 - 5212.3 Museum and Other Related Interpreters
 - 5212.4 Museum Extension Officers
 - 5212.5 Museum Registrars and Cataloguers
 - 5212.6 Preparators and Museology Technicians
 - 5212.7 Picture Framers
 - 5212.8 Taxidermists

522 Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts

- 5221 Photographers
- 5222 Film and Video Camera Operators
- 5223 Graphic Arts Technicians
- 5224 Broadcast Technicians
- 5225 Audio and Video Recording Technicians
- 5226 Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts
 - 5226.1 Floor Managers
 - 5226.2 Key Grips
 - 5226.3 Gaffers and Lighting Technicians
 - 5226.4 Stunt Co-ordinators and Special Effects Technicians
 - 5226.5 Make-Up Artists
 - 5226.6 Costumiers
 - 5226.7 Settings Shop Foremen/women
 - 5226.8 Property Masters

- 5227 Support Occupations in Motion Pictures, Broadcasting and the Performing Arts
 - 5227.1 Camera Crane Operators
 - 5227.2 Projectionists
 - 5227.3 Props Persons and Set Builders
 - 5227.4 Script Assistants
 - 5227.5 Grips and Riggers
 - 5227.6 Dressers

523 Announcers and Other Performers

- 5231 Announcers and Other Broadcasters
- 5232 Other Performers
 - 5232.1 Buskers
 - 5232.2 Circus Performers
 - 5232.3 Magicians and Illusionists
 - 5232.4 Fashion Models
 - 5232.5 Puppeteers

524 Creative Designers and Craftspersons

- 5241 Graphic Designers and Illustrators
 - 5241.1 Graphic Designers
 - 5241.2 Illustrators
- 5242 Interior Designers
- 5243 Theatre, Fashion, Exhibit and Other Creative Designers
 - 5243.1 Theatre Designers
 - 5243.2 Fashion Designers
 - 5243.3 Exhibit Designers
- 5244 Artisans and Craftspersons
 - 5244.1 Carvers
 - 5244.2 Glass Blowers
 - 5244.3 Metal Arts Workers
 - 5244.4 Potters
 - 5244.5 Stained Glass Artists
 - 5244.6 Stringed Instrument Makers
 - 5244.7 Weavers
 - 5244.8 Craft Instructors
 - 5244.9 Artistic Floral Arrangers
- 5245 Patternmakers – Textile, Leather and Fur Products

525 Athletes, Coaches, Referees and Related Occupations

- 5251 Athletes
- 5252 Coaches
 - 5252.1 Coaches
 - 5252.2 Sports Scouts
- 5253 Sports Officials and Referees
- 5254 Program Leaders and Instructors in Recreation and Sport

5111 Librarians

Librarians select, develop, organize and maintain library collections and provide advisory services for users.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

MSd

DATA PEOPLE THINGS (DPT)

124

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

8

Examples of Job Titles

bibliographer
cataloguer
cybrarian
librarian
library consultant
library supervisor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to select, classify and weed catalogue library materials and develop systems to access library collections
- **Verbal ability** to provide reference services, and analyze publishers' catalogues to recommend acquisition of books, periodicals, audio-visual, interactive media and other materials
- **Clerical perception** to prepare bibliographies, indexes, reading lists, guides and other finding aids, to consult references, to verify information and to record data
- **Methodical interest in operating** on-line and interactive media reference searches and conducting manual searches; and in making interlibrary loans and performing other functions using Internet and CD-ROM media to assist users in accessing library materials
- **Social interest in instructing** and assisting users in finding library materials; and in providing specialized programs for children, seniors and other groups
- **Directive interest in co-ordinating** library information and orientation training sessions; and in supervising library technicians, assistants and clerks

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
8

- A master's degree in library science is required.

Workplaces/Employers

Departments within libraries

Libraries

Occupational Options

Progression to library management positions is possible with experience.

Similar Occupations Classified Elsewhere

Library directors (in 0511 *Library, Archive, Museum and Art Gallery Managers*)

Medical record clerks (in 1413 *Records Management and Filing Clerks*)

School librarians (in 4141 *Secondary School Teachers* and 4142 *Elementary School and Kindergarten Teachers*)

5112.1 Conservators

Conservators restore and conserve artifacts belonging to museums and galleries and owners of cultural property.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	2	4	3	3	3

INTERESTS

Dim

DATA PEOPLE THINGS (DPT)

221

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1*	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, D3*, D4*

EDUCATION/TRAINING

6+, 8

Examples of Job Titles

conservator

conservator – art objects

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to restore and conserve paintings, photographs, sculptures, textiles, furniture, pottery and other museum and art gallery artifacts, and to examine artifacts, determine their condition, suggest methods for treating them and recommend preventive conservation techniques for cultural property
- **Verbal ability** to provide consultation to museums, art galleries and private individuals
- **Spatial and form perception** to perceive detail in pictures, maps and other objects to make visual discriminations and observe slight differences in quality, texture, shadings and other characteristics to determine value and authenticity
- **Directive interest in instructing** to provide advice on display and storage of museum and gallery artifacts to ensure proper maintenance and preservation; and in supervising conservation and other museum technicians
- **Innovative interest in precision working** to conserve and restore antiquities and works of art using aesthetic sensibility, and manual and artistic skills; and in researching new conservation and restoration techniques
- **Methodical interest in analyzing** information to account for, acquire and receive archival material; and in checking detail, recording information and filing material

Physical Activities

Vision
1* Close visual acuity

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Discomforts
D3* Odours
D4* Non-toxic dusts

Employment Requirements

Education/Training
6+, 8

- Conservators require a master's degree in art conservation
or
completion of a three-year college program in conservation technology and several years of experience in conservation work.

Workplaces/Employers

Art galleries
Museums
Self-employment
Universities

Occupational Options

Progression to museum or art gallery management positions is possible with experience.

Similar Occupations Classified Elsewhere

Curatorial assistants (in 5212 *Technical Occupations Related to Museums and Art Galleries*)

Museum designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Museum educators (in 5124 *Professional Occupations in Public Relations and Communications*)

Remarks

Conservators may specialize in a particular type of collection or material, such as furniture, weapons, books, paintings and musical instruments.

*Physical Activities

- For this occupation, **Vision 3** (Near and far) may also apply.

*Environmental Conditions

- For this occupation, **Discomforts D3** (Odours) and **D4** (Non-toxic dusts) may also apply.

5112.2 Curators

Curators recommend the acquisition of museum and gallery artifacts and research their artistic history.

Profile Summary									Examples of Job Titles		
APTITUDES									assistant curator		
G	V	N	S	P	Q	K	F	M	curator		
2	2	3	3	2	4	3	3	3			
INTERESTS											
DMI											
DATA PEOPLE THINGS (DPT)											
128											
PHYSICAL ACTIVITIES (PA)											
V	C	H	B	L	S						
2	1	2	1	0	1						
ENVIRONMENTAL CONDITIONS (EC)											
L1											
EDUCATION/TRAINING											
7, 8											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research origins and artistic history of artifacts, conduct research in area of specialization, and organize expeditions engaged in research and discovery

- **Verbal ability** to exchange scientific, educational and cultural information with scientists, institutions and other organizations
- **Form perception** to co-ordinate the storage of collections and setting-up of displays and exhibitions
- **Directive interest** in **consulting** to recommend the acquisition of paintings, photographs, sculptures, documents and other museum and art gallery artifacts; and in supervising curatorial assistants and other museum technicians
- **Methodical interest** in overseeing the conservation, display and circulation of collections
- **Innovative interest** in **co-ordinating** information to develop story lines and themes, and in organizing displays and exhibitions

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 7, 8

- Curators require a master's or bachelor's degree in museology, art history or a field related to their specific area of work.

Workplaces/Employers

Art galleries

Culture centres

Museums

Universities

Occupational Options

Progression to museum or art gallery management positions is possible with experience.

Similar Occupations Classified Elsewhere

Curatorial assistants (in 5212 *Technical Occupations Related to Museums and Art Galleries*)

Museum designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Museum educators (in 5124 *Professional Occupations in Public Relations and Communications*)

Remarks

Curators may specialize in a particular type of collection or material, such as furniture, weapons, books, paintings and musical instruments.

Archivists manage, process, store and disseminate information contained in an organization's archives. They acquire, store and research textual material, pictures, maps, architectural documents, electronic materials, films and videos, sound recordings and multimedia materials.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	3	2	2	4	4	4
INTERESTS								
MIS								
DATA PEOPLE THINGS (DPT)								
124								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	1	1	1	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1, D3*, D4*								
EDUCATION/TRAINING								
7+, 8								

Examples of Job Titles

- archivist
- historical archivist
- multimedia archivist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to appraise and acquire archival materials to build and develop archival collections for research purposes, to authenticate documents and records, and to research the origins and significance of archival materials
- **Verbal ability** to respond to requests for information; and to develop policies and procedures for managing current and semicurrent archives, in particular corporate cataloguing systems and records scheduling and disposal
- **Form perception** to perceive detail in manuscripts, maps, photographs and other archival materials to authenticate documents and records
- **Clerical perception** to organize non-current archives and develop cataloguing and retrieval systems
- **Methodical interest** in operating automated reference searches; and in planning the computerized management of archives and the management of electronic archives
- **Innovative interest** in co-ordinating information to develop cataloguing and retrieval systems and finding aids that allow access to archival materials, and to design programs for managing, disseminating and storing archives of all types such as documents, photographs, maps, manuscripts and audio-visual and other archival materials
- **Social interest** in instructing and assisting users with their searches

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Discomforts
D3* Odours
D4* Non-toxic dusts

Employment Requirements

Education/Training
7+, 8

- A bachelor's degree with a minor in archival studies
or
a university degree with a certificate in archival studies is required.
- A master's degree in archival studies, library science or history may be required.

Workplaces/Employers

Archives
Private sector organizations
Public and para-public sectors

Occupational Options

Progression to archive management positions is possible with experience.

Similar Occupations Classified Elsewhere

Archive assistants (in 5211 *Library and Archive Technicians and Assistants*)

Librarians (5111)

Library, Archive, Museum and Art Gallery Managers (0511)

Remarks

*Environmental Conditions

- For this occupation, **Discomforts** D3 (Odours) and D4 (Non-toxic dusts) may also apply.

5121.1 Creative Writers

Creative writers plan, research and write books, scripts, storyboards, plays, essays and speeches for publication and presentation.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	4	4	4	3	4	4	4

INTERESTS

IMd

DATA PEOPLE THINGS (DPT)

048

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

1+, 6+, 7+, R

Examples of Job Titles

author
essayist
interactive media writer
novelist
playwright
poet
script writer
speech writer
writer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles and techniques of writing; may conduct research to obtain information and establish factual content
- **Verbal ability** to understand the principles of grammar, words, expressions and associated ideas, and to use them orally and in written form
- **Innovative interest** in **synthesizing** information to conceive and write novels, plays, scripts, poetry and other material for publication and presentation
- **Methodical interest** in revising work to ensure accuracy, coherence and proper development of style, theme, plot and characterization
- **Directive interest** in **diverting** and entertaining an audience by choosing and developing themes, characters, plots and subjects of published and presented work

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
1+, 6+, 7+, R

- Creative writing programs are offered by universities and colleges.
- Talent and ability, as demonstrated by a portfolio of work, are important hiring criteria.
- Membership in a guild or union related to the occupation may be required.

Workplaces/Employers

Governments
Interactive media companies
Large corporations
Multimedia companies
Private consulting firms
Publishing firms
Self-employment

Similar Occupations Classified Elsewhere

Editors (5122)

Journalists (5123)

Professional Occupations in Public Relations and Communications (5124)

Song writers (in 5132 *Conductors, Composers and Arrangers*)

Remarks

Authors and writers may specialize in a particular subject or type of writing.

5121.2 Technical Writers

Technical writers plan, research and write manuals, specifications and other non-journalistic articles for publication and presentation.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	4	3	3	3	4	4	4

INTERESTS

IMo

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

interactive media writer

scientific writer

specifications writer

technical writer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to analyze specifications, notes, drawings and technical information to acquire knowledge of products in order to prepare manuals, user guides and other documents
- **Verbal ability** to understand the principles of grammar, words and associated ideas, and to use them to explain the installation, operation and maintenance of software and electronic, mechanical and other equipment
- **Innovative interest** in synthesizing information to write manuals, user guides and other documents; may assist in the preparation and layout of publications
- **Methodical interest** in **instructing** to explain the installation, operation and maintenance of software and electronic, mechanical and other equipment
- **Objective interest** in understanding the operation and functioning of software and equipment to prepare and write manuals, user guides and other documents

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+, R

- Technical writers usually require a university degree in the area of specialization, such as computer science or engineering.
- Talent and ability, as demonstrated by a portfolio of work, are important hiring criteria.
- Membership in a guild or union related to the occupation may be required.

Workplaces/Employers

Governments
Interactive media companies
Large corporations
Multimedia companies
Private consulting firms
Publishing firms
Self-employment

Similar Occupations Classified Elsewhere

Editors (5122)

Journalists (5123)

Professional Occupations in Public Relations and Communications (5124)

Translators, Terminologists and Interpreters (5125)

Remarks

Authors and writers may specialize in a particular subject or type of writing.

5121.3 Copywriters

Copywriters plan, research and write copy for advertisements and commercials.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	4	3	3	3	4	4	4

INTERESTS

IMd

DATA PEOPLE THINGS (DPT)

058

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

advertising copywriter

copywriter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to study and determine selling features of products and services to write advertising text
- **Verbal ability** to use words to achieve a desired effect when planning and writing headlines and text
- **Innovative interest** in **synthesizing** information to write text for advertisements and commercials, including commercial scripts
- **Methodical interest** in studying products and services to be advertised, and in submitting copy to editor for approval
- **Directive interest** in **persuading** audiences by determining the most effective advertising approach, including text, style and length of copy

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

1 Limited

Body Position

1 Sitting

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- Copywriters usually require a university degree or college diploma in English, French, marketing or other discipline.
- Talent and ability, as demonstrated by a portfolio of work, are important hiring criteria.
- Membership in a guild or union related to the occupation may be required.

Workplaces/Employers

Advertising agencies
 Governments
 Large corporations
 Multimedia companies
 Private consulting firms
 Publishing firms
 Self-employment

Similar Occupations Classified Elsewhere

*Editors (5122)**Journalists (5123)**Professional Occupations in Public Relations and Communications (5124)**Song writers (in 5132 Conductors, Composers and Arrangers)*

Remarks

Authors and writers may specialize in a particular subject or type of writing.

Editors review, evaluate and edit manuscripts, articles, news reports and other material for publication, broadcast and interactive media, and co-ordinate the activities of writers, journalists and other staff.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	3	3	4	3	4	4	4

INTERESTS

DIS

DATA PEOPLE THINGS (DPT)

218

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, R

Examples of Job Titles

advertising editor
 associate editor
 contributing editor
 copy editor
 editor
 editorial consultant
 literary editor
 manuscript editor
 news editor
 news service editor
 sports editor
 technical editor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to evaluate suitability of manuscripts, articles, news copy and wire service dispatches for publication, broadcast and electronic media, and to recommend and make changes in content, style and organization
- **Verbal ability** to understand words and principles of grammar to read and edit copy to be published and broadcast
- **Clerical perception** to detect and correct errors in spelling, grammar and syntax, and to shorten or lengthen copy as space or time requires
- **Directive interest** in planning and co-ordinating activities of staff to assure production deadlines are met, and in planning coverage of upcoming events and assigning work
- **Innovative interest** in analyzing information to plan and implement layout or format of copy according to space and time allocations and significance of copy
- **Social interest** in negotiating with authors, staff writers, reporters and others regarding revisions to copy; may negotiate royalties with authors and arrange for payment of freelance staff

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+, R

- A bachelor's degree in English, French, journalism or a related discipline is usually required.
- Several years of experience in journalism, writing, publishing or a related field are usually required.
- Membership in the Editors Association of Canada may be required.

Workplaces/Employers

Journals
Magazines
Newspapers
Publishing departments of companies
Publishing departments within government
Publishing firms
Radio stations
Self-employment/freelance
Television networks and stations

Occupational Options

Progression to supervisory and management positions, such as editor-in-chief or managing editor, is possible with experience.

Similar Occupations Classified Elsewhere

Authors and Writers (5121)

Editorial assistants (in 1452 *Correspondence, Publication and Related Clerks*)

Film editors (in 5131 *Producers, Directors, Choreographers and Related Occupations*)

Journalists (5123)

Managing editors (in 0512 *Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts*)

Map editors (in 2255 *Mapping and Related Technologists and Technicians*)

Sound editors (in 5225 *Audio and Video Recording Technicians*)

Translators-revisers (in 5125 *Translators, Terminologists and Interpreters*)

Remarks

Editors may specialize in a particular subject area, such as news, sports or features, or in a particular type of publication, such as books, magazines, newspapers or manuals.

Journalists research, investigate, interpret and communicate news and public affairs through newspapers, television, radio and other media.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	3	4	4	3	4	4	4

INTERESTS

ISM

DATA PEOPLE THINGS (DPT)

348

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H8*

EDUCATION/TRAINING

6, 7

Examples of Job Titles

book reviewer
broadcast journalist
columnist
correspondent
cyberjournalist
investigative reporter
journalist
network reporter
news analyst
news commentator
newspaper critic
reporter
television news anchorperson

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to collect local, national and international news through interviews, investigation and observation, and to research and report on developments in specialized fields such as medicine, science and technology
- **Verbal ability** to write critical reviews of literary, musical and other artistic works based on knowledge, judgement and experience
- **Innovative interest** in writing news stories for publication and broadcast; in preparing regular feature columns and stories on specialized topics; in writing editorials and commentaries on topics of current interest; to express the views of publication and broadcasting stations
- **Social interest in diverting** to stimulate public interest in current topics; and in arranging for and conducting interviews as part of research and for radio and television programs
- **Methodical interest in compiling** information to receive, analyze and verify news and other copy for accuracy

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

1 Upper limb co-ordination

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

L3 Outside

Hazards

H8* Dangerous locations

Employment Requirements

Education/Training

6, 7

- A university degree or college diploma in journalism or a related field such as communications is usually required.

Workplaces/Employers

Magazines

Newspapers

Radio stations

Self-employment/freelance

Television networks and stations

Occupational Options

Experienced reporters may advance to editorial positions (print media) or become producers (broadcast media).

Similar Occupations Classified Elsewhere

Announcers and Other Broadcasters
(5231)

Authors and Writers (5121)

Editors (5122)

Photojournalists (in 5221 *Photographers*)

Remarks

Journalists may specialize in print, broadcast or webcast media, in particular issues such as political affairs or entertainment news, or in a particular geographic area.

*Environmental Conditions

- For some occupations in this group, **Hazards H8** (Dangerous locations) may also apply.

5124 Professional Occupations in Public Relations and Communications

Professional occupations in public relations and communications include specialists who develop and implement communication and promotion strategies and information programs, publicize activities and events, and maintain media relations on behalf of businesses, governments and other organizations and for performers, athletes, writers and other talented individuals. Agents such as entertainment, literary and sports agents are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	3	4	4	3	4	4	4

INTERESTS

IMS

DATA PEOPLE THINGS (DPT)

158

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6, 7, R

Examples of Job Titles

communications officer
communications specialist
fund-raising consultant
information officer
literary agent
media co-ordinator
media relations officer
museum educator
performers agent
press secretary
public affairs officer
public relations consultant
public relations officer
publicist
publicity agent
sports agent

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to develop, implement and evaluate communications strategies and programs designed to inform clients, employees and the general public of initiatives and policies of businesses, governments and other organizations, and to conduct public opinion and attitude surveys to identify the interests and concerns of key groups served by organizations
- **Verbal ability** to prepare and deliver educational and publicity programs and informational materials to increase awareness of museums, galleries and other tourist attractions, to act as spokesperson for an organization and answer written and oral inquiries and to represent and act as an agent for talented individuals or individuals with specific occupational expertise
- **Innovative interest in co-ordinating** information to prepare and oversee preparation of reports, briefs, bibliographies, speeches, presentations, Web sites and press releases, and to develop and organize workshops, meetings, ceremonies and other events for publicity, fund-raising and information purposes
- **Methodical interest** in gathering, researching and preparing communications material for internal and external audiences, and in assisting in the preparation of brochures, reports, newsletters and other material
- **Social interest in persuading** to initiate and maintain contact with the media, and to arrange interviews and news conferences; and in co-ordinating special publicity events and promotions to internal and external audiences

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

3 Sitting, standing, walking

Limb Co-ordination

0 Not relevant

Strength

1 Limited

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

6, 7, R

- A university degree or college diploma in public relations, communications, journalism, museology or a discipline related to a particular subject matter is usually required.
- Practitioners in public relations may require an APR (Accredited in Public Relations) designation.

Workplaces/Employers

Artists, writers and athletes

Associations

Consulting firms

Corporations

Governments

Museums

Public interest groups

Self-employment

Social agencies and other organizations

Occupational Options

Progression to managerial positions in public relations, communications and fund-raising is possible with additional training and experience.

Similar Occupations Classified Elsewhere

Advertising specialists (in 1122 *Professional Occupations in Business Services to Management*)

Authors and Writers (5121)

Conference and Event Planners (1226)

Marketing consultants (in 4163 *Business Development Officers and Marketing Researchers and Consultants*)

Public relations clerks (in 1453 *Customer Service, Information and Related Clerks*)

Public relations managers (in 0611 *Sales, Marketing and Advertising Managers*)

Remarks

Literary agents specialize in representing specific types of authors and writers. Performance agents specialize in representing specific singers, musicians, actors or other performers. Sports agents specialize in representing specific athletes or sports teams.

5125.1 Translators

Translators translate and adapt or localize text and written material from one language to another.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	4	4	4	2	4	4	4

INTERESTS

MIId

DATA PEOPLE THINGS (DPT)

228

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

literary translator

localisor

translator

translator adaptor

translator-reviser

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to translate written materials such as correspondence, reports, legal documents, technical specifications and textbooks, from one language to another while maintaining the content, context and style of the original
- **Verbal ability** to understand and use complex and abstract cultural, political, commercial, technical and scientific concepts and terms expressed in two or more languages
- **Clerical perception** to revise and correct translated material
- **Methodical interest** in transcribing text in formats such as memoranda, reports and letters using knowledge of grammar and terms employed in business, professional, technical and trade organizations
- **Innovative interest** in **analyzing** information to produce translated documents that help readers understand the contents of original material; and in **localizing** software and accompanying technical documents to adapt them to another language and culture
- **Directive interest** in **consulting** with clients to determine the most appropriate adaptation of content from one language to another; may train and supervise other translators

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+, 8+, R

- A university degree in translation is required, with a specialization in translation, interpretation or terminology in two languages including at least one of the two official languages
or
a university degree in a related discipline such as languages, linguistics, philology and courses in linguistic transfer and two years of experience as a full-time translator working in two languages, at least one of which is an official language
or
five years of experience as a fulltime translator working in two languages, at least one of which is an official language.

- Certification on dossier or by examination from the Canadian Translators and Interpreters Council may be required for translators, terminologists and interpreters.
- Fluency in three languages is usually required for translators working in an international context.
- Membership in a provincial or territorial association of translators, interpreters and terminologists may be required.

Workplaces/Employers

Government
In-house translation services
International organizations
Large private corporations
Media companies
Private translation agencies
Self-employment

Similar Occupations Classified Elsewhere

Authors and Writers (5121)

Editors (5122)

Language instructors (in 4131 College and Other Vocational Instructors)

Linguists (in 4169 Other Professional Occupations in Social Science)

Remarks

Translators specialize in two languages, such as French and English, the official languages of Canada. They may also specialize in another language and one of the official languages. The main areas of specialization include administrative, literary, scientific and technical translation.

5125.2 Terminologists

Terminologists conduct research required to itemize terms connected with a certain field, define them and find equivalents in another language.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	4	4	4	3	4	4	4

INTERESTS

MIs

DATA PEOPLE THINGS (DPT)

228

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

legal terminologist
medical terminologist
terminologist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conduct terminological research on a given subject or in response to inquiries for the preparation of glossaries, terminology banks, technological files, dictionaries, lexicons and resource centres
- **Verbal ability** to translate and adapt scientific and technical documents and to manage linguistic information and terminological databases
- **Innovative interest** in analyzing information to research and identify the terminology used in a field of activity, and to add to terminological databases
- **Clerical perception** to discern detail in text
- **Social interest** in consulting to provide advice to translators, interpreters and technical writers preparing legal, scientific and other documents requiring specialized terminologies
- **Methodical interest** in consulting dictionaries and other reference sources; and in updating and circulating linguistic information collected from terminological databases

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

7+, 8+, R

- A university degree in translation is required, with a specialization in translation, interpretation or terminology in two languages including at least one of the two official languages
or
a university degree in a related discipline such as languages, linguistics, philology and courses in linguistic transfer and two years of experience as a full-time translator working in two languages, at least one of which is an official language
or
five years of experience as a full-time translator working in two languages, at least one of which is an official language.
- Certification on dossier or by examination from the Canadian Translators and Interpreters Council may be required for translators, terminologists and interpreters.
- Fluency in three languages is usually required in an international context.
- Membership in a provincial or territorial association of translators, interpreters and terminologists may be required.

Workplaces/Employers

Government

In-house translation services

International organizations

Large private corporations

Media companies

Private interpretation agencies

Private translation agencies

Self-employment

Similar Occupations Classified Elsewhere

Authors and Writers (5121)

Editors (5122)

Language instructors (in 4131 *College and Other Vocational Instructors*)

Linguists (in 4169 *Other Professional Occupations in Social Science*)

Remarks

Terminologists specialize in two languages, such as French and English, the official languages of Canada. They may also specialize in another language and one of the official languages. The main areas of specialization include administrative, literary, scientific and technical translation.

5125.3 Interpreters

Interpreters translate oral communication from one language to another during speeches, meetings, conferences, debates and consultations, or in court and before administrative tribunals.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	4	4	4	3	4	4	4

INTERESTS

Mis

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

7+, 8+, R

Examples of Job Titles

community interpreter
conference interpreter
court interpreter
interpreter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to interpret oral communication from one language to another aloud or using electronic equipment, either simultaneously (as the speaker speaks), consecutively (after the speaker speaks) or whispered (speaking in a low whisper to one or two persons as the speaker is talking)
- **Verbal ability** to provide interpretation services in court or before administrative tribunals; may interpret language for individuals and small groups travelling in Canada and abroad, and to persons speaking a Native or foreign language in a variety of circumstances
- **Methodical interest** in listening to speakers or reading from texts in order to interpret statements made during speeches, meetings, conferences, debates and conversation, or in court or before administrative tribunals
- **Innovative interest in analyzing** information when listening to and watching the source language, in processing the content, meaning, context and affect, and in reproducing messages simultaneously, or consecutively
- **Social interest in speaking** to facilitate communication between individuals with differing languages

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
7+, 8+, R

- A university degree in translation is required, with a specialization in translation, interpretation or terminology in two languages including at least one of the two official languages
or
a university degree in a related discipline such as languages, linguistics, philology and courses in linguistic transfer and two years of experience as a full-time translator working in two languages, at least one of which is an official language
or
five years of experience as a full-time translator working in two languages, at least one of which is an official language.

- Certification on dossier or by examination from the Canadian Translators and Interpreters Council may be required for translators, terminologists and interpreters.
- Fluency in three languages is usually required for interpreters working in an international context.
- Membership in a provincial or territorial association of translators, interpreters and terminologists may be required.

Workplaces/Employers

Government
 International organizations
 Large private corporations
 Media companies
 Private interpretation agencies
 Self-employment

Similar Occupations Classified Elsewhere

Authors and Writers (5121)

Language instructors (in 4131 College and Other Vocational Instructors)

Linguists (in 4169 Other Professional Occupations in Social Science)

Remarks

Interpreters specialize in two languages, such as French and English, the official languages of Canada. They may also specialize in another language and one of the official languages. The main areas of specialization include administrative, literary, scientific and technical translation. Interpreters may specialize in court, parliamentary or conference interpretation.

5125.4 Sign Language Interpreters

Sign language interpreters use sign language to translate spoken language and vice versa during meetings, conversations, television programs or in other instances.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	1	4	4	4	3	1	1	3

INTERESTS

MIS

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

ASL interpreter

LSQ interpreter

sign language interpreter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to become familiar with subject matter and special terminology requirements, to translate sign language to a spoken language and vice versa, and to have an understanding of the world and culture of persons who are deaf, hard of hearing or with communication disorders
- **Verbal ability** to translate sign language to a spoken language and vice versa either simultaneously or consecutively
- **Methodical interest** in arranging physical environment at assigned location to ensure facilities are conducive to good communication
- **Innovative interest** in analyzing information to process the content, meaning, context and affect, and reproduce the message in the target language (spoken or signed)
- **Social interest** in speaking – signalling to use sign language to translate spoken language and vice versa for facilitating communication exchange; and in working with other interpreters

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, R

- Sign language interpreters require a college training program or a university certificate in sign language interpretation.
- Sign language interpreters may require a certificate or certification evaluation in LSQ or ASL.
- Membership in a provincial association of sign language interpreters may be required.

Workplaces/Employers

Courts

Government services

Interpretation services

Schools

Self-employment

Social service agencies

Television stations

Similar Occupations Classified Elsewhere

Language instructors (in 4131 *College and Other Vocational Instructors*)

Linguists (in 4169 *Other Professional Occupations in Social Science*)

Remarks

Sign language interpreters work in French and Langue des signes québécoise (LSQ) or in English and American Sign Language (ASL).

5131.1 Film, Radio and Television Producers

Film, radio and television producers oversee and control technical and artistic aspects of film, radio and television productions, respectively.

Profile Summary

APTITUDES								
G	V	N	S	P	Q	K	F	M
2	2	3	2	3	3	4	4	4
INTERESTS								
IDS								
DATA PEOPLE THINGS (DPT)								
118								
PHYSICAL ACTIVITIES (PA)								
V	C	H	B	L	S			
2	0	2	3	0	1			
ENVIRONMENTAL CONDITIONS (EC)								
L1								
EDUCATION/TRAINING								
6+, 7+, R								

Examples of Job Titles

- filmmaker
- multimedia audio producer
- producer
- producer-director
- radio producer
- television producer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability and spatial perception** to plan, organize and oversee the technical and artistic aspects of the production of presentations, motion pictures, television shows and radio programs
- **Verbal ability** to engage directors, staff and other production personnel, and supervise all technical personnel, to review scripts, and oversee meetings to resolve production problems
- **Innovative interest** in determining scope, treatment and scheduling of productions, and in adapting scripts and programs to reach specific audiences
- **Directive interest in co-ordinating** all elements of productions to ensure that quality is maintained; in controlling all stages of productions to ensure deadlines are met; and in approving productions before release; may direct productions
- **Social interest in negotiating** with administrators, investors, contractors, directors and staff to develop business management policies and to finance productions; and in negotiating royalties

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, R

- Producers, usually require a university degree or college diploma in the performing arts, broadcasting, journalism, business administration, theatre production or film studies *and* experience in a technical or production occupation in motion pictures, broadcasting or theatre.
- Demonstrated creative ability is required for all occupations in this group.
- Membership in a related guild or union may be required.

Workplaces/Employers

Broadcast departments in advertising companies
Film production companies
Production studios
Radio stations
Self-employment
Sound recording studios
Television stations

Similar Occupations Classified Elsewhere

Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts
(0512)

Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts
(522)

5131.2 Directors

Directors interpret scripts and direct the mise en scène of film, television, radio and theatre productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	3	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2*	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

director

producer-director

radio director

stage director – performing arts

television director

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to interpret scripts and direct mise en scène and performances
- **Verbal ability** to select and direct actors, extras and technical crew; and to advise the cast and crew on the interpretation and delivery of performances
- **Spatial and form perception** to interpret set diagrams, determine layouts, and direct the creation and action of special effects
- **Innovative interest** in studying scripts to determine artistic interpretations; and in co-ordinating the activities of production staff to develop desired effects
- **Directive interest** in co-ordinating the activities of performers, extras and production personnel; and in advising them on the interpretation and delivery of performances, and in conferring with crew and specialists throughout production and post-production to achieve desired presentations
- **Social interest** in instructing cast members and production personnel to develop and achieve presentations that reflect desired artistic interpretations

Physical Activities

Vision
2* Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Employment Requirements

Education/Training
6+, 7+, R

- Directors usually require a university degree or college diploma in the performing arts, broadcasting, journalism, theatre production or film studies
and
experience in a technical or production occupation in motion pictures broadcasting or theatre.

- Demonstrated creative ability is required for all occupations in this group.

- Membership in a related guild or union may be required.

Workplaces/Employers

Broadcast departments in advertising companies

Film production companies

Production studios

Radio stations

Self-employment/freelance

Television stations

Theatre companies

Similar Occupations Classified Elsewhere

Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts (0512)

Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (522)

Remarks

*Physical Activities

- For this occupation, Vision 3 (Near and far vision) may also apply.

*Environmental Conditions

- For this occupation, Location L3 (Outside) may also apply.

5131.3 Choreographers

Choreographers create and oversee the technical and artistic aspects of dance for film, theatre and television performances.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	3	4	3	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	3	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

choreographer
cyber-choreographer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to study musical scores, stories and themes in order to create original dances for film, theatre and television productions
- **Verbal ability** to consult with production personnel concerning artistic interpretations, and to conduct rehearsals
- **Spatial perception** to visualize body movements with regard to space, proper sequencing and timing
- **Motor co-ordination** to make precise movements rhythmically and in dance patterns
- **Innovative interest in synthesizing** information to create dances that convey stories, ideas and moods and harmonize with musical scores
- **Directive interest** in planning and arranging movements of dancers and other performers, evaluating performances during rehearsals and directing dancers during rehearsals to achieve desired interpretations
- **Social interest in instructing** dancers in their performances and artistic interpretations, and by demonstrating movements required to convey themes

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Employment Requirements

Education/Training
5+, 6+, 7+, R

- Choreographers usually require a university degree or college diploma in dance, or a period of study at a school of dance
and
extensive training with a dance company.
- Demonstrated creative ability is required for this occupation.
- Membership in a related guild or union may be required.

Workplaces/Employers

Dance companies
Film production companies
Self-employment/freelance
Theatre companies

Similar Occupations Classified Elsewhere

Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts (0512)

Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (522)

Remarks

*Environmental Conditions

- For this occupation, Location L3 (Outside) may also apply.

5131.4 Art Directors

Art directors plan, organize and direct the artistic aspects of film, theatre and television productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	3	3	4	4	4

INTERESTS

IDS

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

artistic director

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to study literature, historical archives and scripts to determine themes and settings in order to plan and organize the artistic aspects of motion pictures, stage productions and television shows
- **Verbal ability** to communicate artistic interpretations to art department personnel
- **Spatial perception** to visualize placement of decor, furnishings, props and artifacts in order to achieve harmonious visual displays and settings that permit free movement of cast members
- **Innovative interest in co-ordinating** information to create artistic interpretations that portray settings for stories and communicate ideas and moods
- **Directive interest in supervising** art department personnel in the design of sets, costumes, furnishings and props; and in directing all aspects of artistic production for performances
- **Social interest** in communicating desired interpretations and instructions to production specialists to achieve quality artistic presentations

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3* Outside

Employment Requirements

Education/Training

6+, 7+, R

- Art directors usually require a university degree or college diploma in the performing arts, broadcasting, journalism, business administration, theatre production or film studies and experience in a technical or production occupation in motion pictures, broadcasting or theatre.

- Demonstrated creative ability is required for this occupation.

- Membership in a related guild or union may be required.

Workplaces/Employers

Broadcast departments in advertising companies

Film production companies

Production studios

Self-employment/freelance

Television stations

Theatre companies

Similar Occupations Classified Elsewhere

Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts (0512)

Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (522)

Remarks

*Environmental Conditions

- For this occupation, Location L3 (Outside) may also apply.

5131.5 Film Editors

Film editors edit visual aspects of motion picture films and video productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	3	3	4	4	4

INTERESTS

DOM

DATA PEOPLE THINGS (DPT)

164

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

film editor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to analyze, evaluate and select scenes to arrange film segments into sequences for continuity and desired visual effects
- **Verbal ability** to study scripts and discuss them with production personnel and directors
- **Spatial perception** to view films and organize the visual effects of incorporated and edited segments to develop dramatic, comedic and thematic aspects of presentations
- **Directive interest** in co-ordinating and overseeing all aspects of film editing
- **Objective interest** in operating equipment to view, trim and splice film and to use computers or nonlinear digital editing systems to compile a film
- **Methodical interest** in speaking with producers, directors and technical personnel to discuss desired thematic effects; and in trimming film segments to specified lengths, and in arranging segments in sequences to achieve story continuity

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, R

- Film editors usually require a university degree or college diploma in the performing arts, broadcasting, journalism, business administration, theatre production or film studies *and* experience in a technical or production occupation in motion pictures, broadcasting or theatre.
- Demonstrated creative ability is required for this occupation.
- Membership in a related guild or union may be required.

Workplaces/Employers

Broadcast departments in advertising companies

Film production companies

Production studios

Self-employment/freelance

Television stations

Similar Occupations Classified Elsewhere

Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts (0512)

Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (522)

5131.6 Record Producers

Record producers plan, co-ordinate and oversee all aspects of the production of musical recordings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	4	4	4

INTERESTS

DMS

DATA PEOPLE THINGS (DPT)

118

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	3	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

producer
record producer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, co-ordinate and direct all aspects of the production of musical and other sound recordings, and to evaluate and select recordings for mass production
- **Verbal ability** to arrange auditions and select artists for specific recordings
- **Directive interest in co-ordinating** information on vocal, instrumental and technical effects to direct musicians, singers and other artists during rehearsals and recordings; and in managing technicians involved in duplicating, dubbing and mastering of recordings
- **Methodical interest** in overseeing rehearsals and timing recordings to ensure they meet specified lengths
- **Social interest in negotiating** contractual agreements between artists, agents and recording companies; and in arranging guest appearances to promote sales of recordings in a variety of formats

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Employment Requirements

Education/Training
6+, 7+, R

- Record producers usually require a university degree or college diploma in music or the recording arts *and* experience in a technical or production occupation in the recording arts.
- Demonstrated creative ability is required for this occupation.
- Membership in a related guild or union may be required.

Workplaces/Employers

Record production companies
Self-employment/freelance
Sound recording studios

Similar Occupations Classified Elsewhere

Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts (0512)

Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (522)

Remarks

- *Environmental Conditions
- For this occupation, Location L3 (Outside) may also apply.

5131.7 Directors of Photography

Directors of photography oversee and control the technical aspects of filming motion picture, video and television productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	2	3	3	4	4	4

INTERESTS

DIO

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

director of photography
filmmaker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to co-ordinate and direct the camera work and lighting for films, videos and television broadcasts
- **Verbal ability** to discuss details of scenes with directors and production personnel
- **Spatial perception** to visualize the results of lighting and use of equipment, film and lenses to develop desired visual effects
- **Directive interest in co-ordinating** and overseeing all aspects of camera work and lighting for motion picture, video and television productions
- **Innovative interest** in determining lighting specifications, lenses, camera angles, backgrounds and other elements to achieve desired visual effects
- **Objective interest in supervising** camera operators and other crews in setting up cameras and lighting equipment; and in instructing crews on technical aspects of filming such as focus settings, distances of shots and changes in lighting; may set up and operate cameras to film scenes

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
6+, 7+, R

- Directors of photography usually require a university degree or college diploma in film studies or cinematography
and
experience in camera operation or other technical occupation in video or motion picture production.
- Demonstrated creative ability is required for this occupation.
- Membership in a related guild or union may be required.

Workplaces/Employers

Broadcast departments in advertising companies

Film production companies

Production studios

Self-employment/freelance

Television stations

Similar Occupations Classified Elsewhere

Managers – Publishing, Motion Pictures, Broadcasting and Performing Arts
(0512)

Photographers, Graphic Arts Technicians and Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts
(522)

5132.1 Conductors

Conductors direct bands, orchestras and choruses in performing instrumental and vocal compositions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	3	3	3	2	2	3	3

INTERESTS

DIM

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	3	2	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, D1

EDUCATION/TRAINING

5+, 7+

Examples of Job Titles

bandmaster
choir director
conductor
musical director

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply music theory and techniques of conducting, and to select and interpret musical works
- **Verbal ability** to understand musical terminology and communicate ideas and desired effects to members of bands, orchestras and choirs
- **Form and clerical perception** to recognize musical notes and symbols, and to read complete musical scores
- **Motor co-ordination** to move baton, gesture and use conducting techniques when directing performers
- **Directive interest in instructing** instrumentalists and performers to achieve rendition required; and in leading bands, orchestras and choirs during rehearsals and performances, in auditioning and selecting instrumental and vocal performers, and in supervising and co-ordinating activities of studio and company personnel
- **Innovative interest in synthesizing** information to control balance, rhythm, dynamics and entries of instruments and voices to create interpretation of scores; and in planning and organizing musical productions, and in assigning parts to performers so the meaning and feeling of interpreted scores are expressed
- **Methodical interest in precision working** to memorize musical scores; and in selecting music to accommodate talents of groups, and in positioning performers to obtain balance and harmony of instruments and voices

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
2 Standing and/or walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Discomforts
D1 Noise

Employment Requirements

Education/Training
5+, 7+

- A university degree in music or completion of a program at a music academy, conservatory or school of music is usually required.
- A period of specialized study related to conducting is usually required.
- Experience as a musician is required.
- Musical and creative talent and ability, as demonstrated by a portfolio of work, are important hiring criteria.

Workplaces/Employers

Bands
Chamber orchestras
Choirs
Opera companies
Orchestras for ballet, opera or theatre performances
Self-employment
Sound recording companies
Symphony orchestras

Similar Occupations Classified Elsewhere

Musicians and Singers (5133)

Producers, Directors, Choreographers and Related Occupations (5131)

Remarks

Conductors usually specialize in a particular type of music such as classical, country, jazz or popular.

*Environmental Conditions

- For some occupations in this group, Location L3 (outside) may also apply.

5132.2 Composers

Composers create musical works and arrange instrumental and vocal compositions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	3	3	3	2	3	3	3

INTERESTS

IMd

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	3	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 7+

Examples of Job Titles

composer

lyricist

singer-songwriter-composer

songwriter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to create and write musical compositions such as television and film scores, theme music, songs and symphonies and music for interactive products such as video games
- **Verbal ability** to understand musical terminology, to communicate with musicians and singers, and to write words to accompany music
- **Clerical perception** to read musical scores and translate compositions into standard musical signs and symbols
- **Innovative interest** in **synthesizing** information to invent melodic, harmonic and rhythmic structures in order to express ideas and emotions in musical forms such as symphonies, operas, and film and play scores
- **Methodical interest** in **precision working** to play instruments to assist in composing, arranging and orchestrating music; and in copying compositions to music paper
- **Directive interest** in applying knowledge of harmony, counterpoint, orchestration and musical forms to create compositions and scores; may conduct and teach music

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0 Not relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 7+

- A university degree in music or completion of a program at a music academy, conservatory or school of music is usually required.
- A period of specialized study related to composing and arranging is usually required.
- Experience as a musician is required.
- Musical and creative talent and ability, as demonstrated by a portfolio of work, are important hiring criteria.

Workplaces/Employers

Bands

Chamber orchestras

Choirs

Opera companies

Orchestras for ballet, opera or theatre performances

Self-employment

Sound recording companies

Symphony orchestras

Occupational Options

Composers often work as arrangers.

Similar Occupations Classified Elsewhere

Musicians and Singers (5133)

Producers, Directors, Choreographers and Related Occupations (5131)

Remarks

Composers usually specialize in a particular type of music such as classical, country, jazz or popular.

5132.3 Arrangers

Arrangers transcribe instrumental and vocal compositions for adaptation or creation of a particular style.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
1	2	3	3	3	2	3	3	3

INTERESTS

DIm

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	3	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 7+

Examples of Job Titles

arranger
music adapter
orchestrator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to adapt and modify musical compositions to convey desired themes and suit particular instrumental and vocal performances
- **Verbal ability** to understand musical terminology and write musical compositions
- **Clerical perception** to annotate original compositions according to selections and to write arrangements on music paper
- **Directive interest** in selecting instruments and voices to obtain desired style and effect by using knowledge of range, characteristics, limitations, key and talents of individual performers, and in transposing music from one medium to another
- **Innovative interest** in **synthesizing** effects of combinations of instruments, voices, harmonic structures, rhythms, tempos and musical dynamics to create arrangements
- **Methodical interest** in **precision working** to play musical instruments to become familiar with compositions to be adapted; and in transcribing compositions and melodic lines to modify them for arrangements

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+, 7+

- A university degree in music or completion of a program at a music academy or school of music is usually required.
- A period of specialized study related to composing and arranging is usually required.
- Experience as a musician is required.
- Musical and creative talent and ability, as demonstrated by a portfolio of work, are important hiring criteria.

Workplaces/Employers

Bands
Chamber orchestras
Choirs
Opera companies
Orchestras for ballet, opera or theatre performances
Self-employment
Sound recording companies
Symphony orchestras

Occupational Options

Composers often work as arrangers.

Similar Occupations Classified Elsewhere

Musicians and Singers (5133)

Producers, Directors, Choreographers and Related Occupations (5131)

Remarks

Arrangers usually specialize in a particular type of music such as classical, country, jazz or popular.

5133.1 Musicians

Musicians play musical instruments and perform with orchestras, choruses, opera companies and popular bands.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	3	3	2	1	2

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

141

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2*	0	3	1*	1*	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, D1*

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

accompanist
church organist
guitar player
instrumentalist
musician
percussionist
recording artist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to acquire an extensive background in music, and to understand and apply music theory and the techniques of playing instruments
- **Verbal ability** to understand musical terminology and communicate with conductors and other musicians
- **Form perception** to recognize musical notes and symbols
- **Motor co-ordination** and **finger** and **manual dexterity** to play musical instruments
- **Objective interest** in **precision working** to play instruments by manipulating keys, bow, valves, strings or other parts of instruments
- **Methodical interest** in **co-ordinating** information from a musical score to produce notes accurately
- **Innovative interest** in **diverting** and entertaining audiences as soloists and as members of musical groups

Physical Activities

Vision
2* Near vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
1* Sitting

Limb Co-ordination
1* Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Discomforts
D1* Noise

Employment Requirements

Education/Training
5+, 6+, 7+, R

- Musical training from a university or college or through private instruction is usually required.
- Members of orchestras and other professional classical musicians usually require a university degree in music.
- Musical talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type of performance may be required.

Workplaces/Employers

Choirs
Concert halls
Conservatories
Film studios
Lounges
Opera companies
Orchestras
Popular bands
Recording studios
Television studios
Theatres

Similar Occupations Classified Elsewhere

Conductors, Composers and Arrangers
(5132)

Elementary school music teachers (in 4142 *Elementary School and Kindergarten Teachers*)

Professors of music (in 4121 *University Professors*)

Secondary school music teachers (in 4141 *Secondary School Teachers*)

Remarks

Musicians usually specialize in specific types of music such as classical, country, ethnic, jazz, opera or popular music.

*Physical Activities

- For some occupations in this group, **Vision** 3 (Near and far vision), **Body Position** 4 (Other body positions) and **Limb Co-ordination** 2 (Multiple limb co-ordination) may also apply.

*Environmental Conditions

- For some occupations in this group, **Location** L3 (Outside) and **Discomforts** D1 (Noise) may also apply.

5133.2 Singers

Singers perform vocal musical arrangements for audiences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	4	5	3	3	4	4	4

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

148

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2*	0	3	2*	0*	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, D1*

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

accompanist
opera singer
recording artist
rock singer
singer
vocalist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to acquire broad background in music and to understand and apply music theory and singing techniques
- **Verbal ability** to read lyrics, understand musical terminology, express music in a foreign language and communicate with musicians and other singers
- **Methodical interest** in **co-ordinating** musical information from scores and arrangements to study and rehearse before performances, and to sing as soloists and members of musical groups
- **Innovative interest** in **diverting** and entertaining audiences by singing for stage, films, television and recordings
- **Directive interest** in using own phrasing and special musical arrangements to achieve individual style of vocal delivery

Physical Activities

Vision
2* Near vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
2* Standing and/or walking

Limb Co-ordination
0* Not relevant

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Discomforts
D1* Noise

Employment Requirements

Education/Training
5+, 6+, 7+, R

- Musical training from a university or college or through private instruction is usually required.
- Singers usually require a university degree in music.
- Musical talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type of performance may be required.

Workplaces/Employers

Choirs
Concert halls
Conservatories
Film studios
Lounges
Opera companies
Popular bands
Recording studios
Television studios
Theatres

Similar Occupations Classified Elsewhere

Conductors, Composers and Arrangers (5132)

Elementary school music teachers (in 4142 *Elementary School and Kindergarten Teachers*)

Professors of music (in 4121 *University Professors*)

Secondary school music teachers (in 4141 *Secondary School Teachers*)

Remarks

Singers usually specialize in specific types of music such as classical, country, ethnic, jazz, opera or popular music.

*Physical Activities

- For some occupations in this group, **Vision 3** (Near and far vision), **Body Position 4** (Other body positions) and **Limb Co-ordination 2** (Multiple limb co-ordination) may also apply.

*Environmental Conditions

- For some occupations in this group, **Location L3** (Outside) and **Discomforts D1** (Noise) may also apply.

5133.3 Teachers of Music or Voice

Teachers of vocal and instrumental music give instruction and lessons on music theory, on singing and on playing musical instruments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	3	3	3	3	3	3

INTERESTS

DMI

DATA PEOPLE THINGS (DPT)

121

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	0	3	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, D1*

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

music teacher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply principles of music theory, and to teach technique and interpretation
- **Verbal ability** to present lessons, communicate musical concepts and to discuss students' progress with them
- **Directive interest** in **instructing** students in reading music, technique, interpretation and music theory through private and group lessons
- **Methodical interest** in **precision working** to demonstrate techniques of playing musical instruments, breath control and singing voice; and in assigning exercises for the development of students' musical ability and for language articulation in singing voice
- **Innovative interest** in **co-ordinating** programs of study of instrumental music or vocal music according to students' interests and abilities

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 0 Not relevant

Hearing

- 3 Other sound discrimination

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Discomforts

- D1* Noise

Employment Requirements

Education/Training

5+, 6+, 7+, R

- Musical training from a university or college or through private instruction is usually required.
- Musical talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type of performance may be required.

Workplaces/Employers

Academies

Conservatories

Private homes

Self-employment

Similar Occupations Classified Elsewhere

Conductors, Composers and Arrangers (5132)

Elementary school music teachers (in 4142 *Elementary School and Kindergarten Teachers*)

Professors of music (in 4121 *University Professors*)

Secondary school music teachers (in 4141 *Secondary School Teachers*)

Remarks

*Environmental Conditions

- For some occupations in this group, Discomforts D1 (Noise) may also apply.

5134.1 Dancers

Dancers perform as soloists, with partners and with other dancers as members of dance groups and companies.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	4	2	3	4	2	3	3

INTERESTS

Mid

DATA PEOPLE THINGS (DPT)

047

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	3	4	2	3

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

ballet dancer

dancer

folkloric dancer

interpretative dancer

tap dancer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, interpret and apply the principles of body movement, dance forms, routines and techniques
- **Spatial perception** to visualize body movements in relation to space, proper sequence and time, and to relate own position to that of others in ensemble dance performances
- **Motor co-ordination** to perform dances as soloists or as members of groups before live audiences, and for film and television
- **Methodical interest in handling** to lift dancers and use props; to practise and rehearse dance routines under direction or instruction to achieve desired interpretation and presentation
- **Innovative interest in synthesizing** information to co-ordinate body movements and facial expressions in synchronization with musical accompaniment; may choreograph own performances
- **Directive interest in diverting** and entertaining audiences through dance performances; and in training and exercising to maintain the required levels of ability and fitness

Physical Activities

Vision

4 Total visual field

Colour Discrimination

0 Not relevant

Hearing

3 Other sound discrimination

Body Position

4 Other body positions

Limb Co-ordination

2 Multiple limb co-ordination

Strength

3 Medium

Environmental Conditions

Location

L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 6+, 7+, R

- A university degree or college diploma in dance
or
graduation from a private dance school or academy may be required.
- Talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type of performance may be required.

Workplaces/Employers

Ballet and dance companies

Nightclubs and similar establishments

Television and film production companies

Similar Occupations Classified Elsewhere

Choreographers (in 5131 *Producers, Directors, Choreographers and Related Occupations*)

Other Performers (5232)

Remarks

Dancers may specialize in specific types of dance such as ballet, ballroom, folk, jazz or modern.

5134.2 Dance Teachers

Dance teachers teach dance technique and artistic interpretation.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	4	2	3	4	2	3	3

INTERESTS

DMI

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	3	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+, R

Examples of Job Titles

ballet teacher
ballroom dancing teacher
dance instructor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand, interpret and apply the principles of body movements, dance forms and production techniques to teach dance
- **Spatial perception** to demonstrate dance movements and steps according to aesthetic principles
- **Motor co-ordination** to demonstrate body, hand and foot movements to musical accompaniment
- **Directive interest in instructing** dance technique to amateur and professional individuals and groups; and in teaching the techniques, cultural origins and symbolic meanings of native, ethnic and folkloric dances
- **Methodical interest** in preparing dance students for specific auditions and performances, and in teaching recreational dancing lessons such as ballroom dancing
- **Innovative interest in synthesizing** information to conceive artistic interpretation, and to determine the interests and physical abilities of students in order to plan suitable dance programs

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+, 6+, 7+, R

- A university degree or college diploma in dance
or
graduation from a private dance school or academy may be required.
- Talent and ability, as demonstrated during an audition, are important hiring criteria.
- Dance teachers usually require experience as dancers.
- Membership in a guild or union related to the occupation or type of performance may be required.

Workplaces/Employers

Dance academies
Dance schools
Self-employment

Similar Occupations Classified Elsewhere

Choreographers (in 5131 *Producers, Directors, Choreographers and Related Occupations*)

Other Performers (5232)

Remarks

Dance teachers may specialize in specific types of dance such as ballet, ballroom, folk, jazz or modern.

5135.1 Actors and Comedians

Actors and comedians perform roles in motion picture, television, theatre and radio productions to entertain a variety of audiences.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	4	3	3	4	4	4	4

INTERESTS

MI d

DATA PEOPLE THINGS (DPT)

048

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	3	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L2*, L3, L4*, H8*, D1*, D5*

EDUCATION/TRAINING

1+, 5+, 6+, 7+, R

Examples of Job Titles

actor/actress

comedian

narrator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to study and rehearse lines, gestures and expressions to interpret roles and develop an understanding of parts
- **Methodical interest** in synthesizing information to develop character roles and memorize lines and cues; and in attending rehearsals, wardrobe fittings and make-up sessions
- **Innovative interest** in diverting audiences by playing roles, singing, dancing and performing comedy acts in video or motion pictures, television shows, theatre productions, radio dramas, commercials and other productions; in performing narration; in performing comedy acts alone or as members of comedy troupes; and in improvising roles
- **Directive interest** in auditioning and rehearsing for roles

Physical Activities

Vision
4 Total visual field

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L2* Unregulated inside climate
L3 Outside
L4* In a vehicle or cab

Hazards
H8* Dangerous locations

Discomforts
D1* Noise
D5* Wetness

Employment Requirements

Education/Training
1+, 5+, 6+, 7+, R

- Talent and demonstrated ability, based on an audition or previous acting roles, is an important hiring criteria.
- Acting programs are offered at universities, colleges and private acting schools.
- Membership in a guild or union may be required.

Workplaces/Employers

Motion picture production companies
Television production companies
Theatre production companies
Video production companies

Similar Occupations Classified Elsewhere

Announcers and Other Broadcasters
(5231)

Dancers (5134)

Drama professors (in 4121 *University Professors*)

Musicians and Singers (5133)

Other Performers (5232)

Remarks

*Environmental Conditions

- For some occupations in this group, **Location** L2 (Unregulated inside climate) and L4 (In a vehicle or cab), **Hazards** H8 (Dangerous locations) and **Discomforts** D1 (Noise) and D5 (Wetness) may also apply.

5135.2 Acting Teachers

Acting teachers instruct acting students.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	4	3	3	4	4	4	4

INTERESTS

DMi

DATA PEOPLE THINGS (DPT)

028

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

1+, 5+, 6+, 7+, R

Examples of Job Titles

acting teacher

drama teacher

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to acquire knowledge about the history of acting and to understand and apply the principles, techniques and theory of acting in order to teach
- **Directive interest** in **instructing** students in the interpretation of scripts, speech, movement and dramatic theory; and in preparing students for auditions and performances
- **Methodical interest** in coaching performers in creative expression, styles of acting and performing, responses to audiences and other techniques
- **Innovative interest** in **synthesizing** information to plan and deliver programs of study according to the interests and abilities of students; and in instructing performers in interpretations of roles in dramatic productions

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
1+, 5+, 6+, 7+, R

- Talent and demonstrated ability, based on an audition or previous acting roles, is an important hiring criteria.
- Acting programs are offered at universities, colleges and private acting schools.
- Acting teachers usually require experience as actors.
- Membership in a guild or union may be required.

Workplaces/Employers

Colleges
Private acting schools
Universities

Similar Occupations Classified Elsewhere

Announcers and Other Broadcasters
(5231)

Dancers (5134)

Drama professors (in 4121 University Professors)

Musicians and Singers (5133)

Other Performers (5232)

5136.1 Painters

Painters create original paintings, drawings, etchings, engravings and other artistic works.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	4	2	2	5	2	2	3

INTERESTS

IOm

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	3*	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, D3

EDUCATION/TRAINING

1+, 5+, 6+, 7+

Examples of Job Titles

artist
artistic painter
portrait painter
silkscreen artist
watercolourist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to create drawings, paintings and other original artwork
- **Spatial ability** to visualize and capture the relationships of all elements forming an artistic whole, and to represent three-dimensional objects on two-dimensional surfaces
- **Form perception** to harmonize relationships of line, colour, design and mass into unified, artistic arrangements
- **Motor co-ordination and finger dexterity** to use small paint brushes when working on paper, canvas, wood panel and other surfaces
- **Innovative interest in synthesizing** information to create visual representations of objects, pictures, scenes, abstract designs and similar original compositions; and in employing various media and techniques
- **Objective interest in precision working** with pastels, water colours, charcoal, ink and other media
- **Methodical interest** in using established methods and techniques to develop creative expressions; and in finishing works of art with protective coatings

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3* Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Discomforts
D3 Odours

Employment Requirements

Education/Training
1+, 5+, 6+, 7+

- Creative ability and talent, as demonstrated by a portfolio of work, and knowledge of the safe use of materials, tools and equipment are required. Art programs are offered at universities, colleges and private art schools.

- A college diploma in fine arts techniques may be required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Art teachers (*university, post-secondary, secondary and elementary education* – in 4121, 4131, 4141, 4142)

Artisans and Craftspersons (5244)

Graphic Designers and Illustrators (5241)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) may also apply.

*Environmental Conditions

- For some occupations in this group, **Location L3** (Outside) may also apply.

5136.2 Sculptors

Sculptors create sculptures and other artistic works.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	4	2	2	5	2	2	3

INTERESTS

IOm

DATA PEOPLE THINGS (DPT)

061

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	4	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H6*, D3*, D4*

EDUCATION/TRAINING

1+, 5+, 6+, 7+

Examples of Job Titles

sculptor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to create designs for sculptures and determine necessary materials and techniques
- **Spatial ability** to conceptualize sculptures, statues and other three-dimensional works of art
- **Form perception** to select materials of suitable proportions, quality and texture
- **Motor co-ordination and finger dexterity** to use fine chisels, knives and other equipment
- **Innovative interest in synthesizing** ideas to create artistic forms from metal, stone and other materials in order to express ideas, feelings and moods by shaping, carving and sculpting materials such as clay, ice, paper, stone, wood and metal
- **Objective interest in precision working** to carve and shape materials to desired forms using hand and power tools, welding and metalworking equipment, and masonry tools
- **Methodical interest in speaking** with models when directing them to pose; and in using established techniques of sculpting and arranging objects for compositions

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
2* Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools
H6* Flying particles, falling objects

Discomforts
D3* Odours
D4* Non-toxic dusts

Employment Requirements

Education/Training
1+, 5+, 6+, 7+

- Creative ability and talent, as demonstrated by a portfolio of work, and knowledge of the safe use of materials, tools and equipment are required. Art programs are offered at universities, colleges and private art schools.
- A college diploma in fine arts techniques may be required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Art teachers (*university, post-secondary, secondary and elementary education* – in 4121, 4131, 4141, 4142)

Artisans and Craftspersons (5244)

Graphic Designers and Illustrators (5241)

Remarks

*Physical Activities

- For this occupation, **Strength 3** (Medium) may also apply.

*Environmental Conditions

- For this occupation, **Hazards H6** (Flying particles, falling objects), and **Discomforts D3** (Odours) and **D4** (Non-toxic dusts) may also apply.

5136.3 Art Instructors and Teachers

Art instructors and teachers teach techniques and methods used in artistic expression to art students.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	4	2	2	4	2	2	3

INTERESTS

DOM

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H3*, H6*, D3*, D4*

EDUCATION/TRAINING

1+, 5+, 6+, 7+

Examples of Job Titles

art instructor (except primary, secondary and post-secondary education)

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan programs of study according to the interests and abilities of students, and to analyze students' capabilities and training needs
- **Verbal ability** to prepare and deliver lectures on history and theory of art, and to offer advice, criticism and encouragement
- **Spatial perception** to visualize and depict three-dimensional objects and arrangements and to choose objects for art lessons
- **Form perception** to assess students' work
- **Motor co-ordination and finger dexterity** to manipulate materials when demonstrating techniques
- **Directive interest** in synthesizing information to teach students the techniques and methods of drawing, painting, sculpting and other forms of artistic expression; and in preparing and assigning special exercises, advising on selection of materials and equipment to use and grading students' work
- **Objective interest** in **precision working** to demonstrate use of materials for paintings, ceramics, sculpture and other forms of art
- **Methodical interest** in **instructing** students; and in providing audio-visual teaching aids and arranging for tours of art galleries, museums and exhibitions of students' work

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3* Equipment, machinery, tools
H6* Flying particles, falling objects

Discomforts
D3* Odours
D4* Non-toxic dusts

Employment Requirements

Education/Training
1+, 5+, 6+, 7+

- Creative ability and talent, as demonstrated by a portfolio of work, and knowledge of the safe use of materials, tools and equipment are required. Art programs are offered at universities, colleges and private art schools.
- Art instructors and teachers may be required to have a university degree or college diploma in a field related to art.

Workplaces/Employers

Art schools
Colleges
Self-employment
Universities

Similar Occupations Classified Elsewhere

Art teachers (*university, post-secondary, secondary and elementary education* – in 4121, 4131, 4141, 4142)

Artisans and Craftspersons (5244)

Graphic Designers and Illustrators (5241)

Remarks

*Environmental Conditions

- For this occupation, **Hazards** H3 (Equipment, machinery, tools) and H6 (Flying particles, falling objects), and **Discomforts** D3 (Odours) and D4 (Non-toxic dusts) may also apply.

5211.1 Library Technicians and Assistants

Library technicians and assistants assist users in accessing library resources, participate in records management, assist in describing new acquisitions and conduct reference searches.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	2	4	4	4

INTERESTS

SMi

DATA PEOPLE THINGS (DPT)

374

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

circulation assistant

library assistant

library technician

reference aide

technical indexer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles and methods of cataloguing and classifying books, documents and other library materials
- **Clerical perception** to catalogue new library acquisitions under the direction of a librarian, and to issue library books and other materials for circulation
- **Social interest** in assisting library users in gaining access to books, films, photographs, maps, documents, electronic materials and other library materials, and in assisting librarians in giving tours and providing children's and other specialized library programs
- **Methodical interest** in operating on-line reference searches, performing manual searches and making interlibrary loans for users; and in receiving library books
- **Innovative interest** in compiling information to assemble and arrange displays of books and other materials for publicity purposes

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A university degree
or
a college library technician program diploma is usually required.
- Computer literacy is required.

Workplaces/Employers

Establishments with library services
Libraries

Similar Occupations Classified Elsewhere

Librarians (5111)

Library Clerks (1451)

5211.2 Archive Technicians and Assistants

Archive technicians and assistants assist users in accessing archive resources, participate in archive records management, processing and storage, assist in describing new acquisitions and conduct reference searches.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	2	4	4	4

INTERESTS

MSi

DATA PEOPLE THINGS (DPT)

374

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, D3*, D4*

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

- archive assistant
- archive technician
- records management technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to implement and update classification plans and records scheduling and disposal plans
- **Verbal ability** to purge, sort, reduce and sample archives and to research and retrieve archival materials
- **Clerical perception** to codify and classify archival materials and records and to transfer materials from current to semicurrent status or put into permanent storage
- **Methodical interest in compiling** information to apply standards and policies for storage of archival materials and records; in **operating** computerized document management systems, and in using equipment to put archival materials on microfilm
- **Social interest** in participating in instructing and assisting users
- **Innovative interest in assisting** in developing inventories, forms and finding aids

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Discomforts
D3* Odours
D4* Non-toxic dusts

Employment Requirements

Education/Training
6+, 7+

- A university degree
or
a diploma in archival studies
or
a college library technician program diploma is usually required.
- Computer literacy is required.

Workplaces/Employers

Archives
Establishments with archive services
Records management branches within establishments

Similar Occupations Classified Elsewhere

Archivists (5113)

Library Clerks (1451)

Records Management and Filing Clerks (1413)

Remarks

- *Environmental Conditions
- For some occupations in this group, Discomforts D3 (Odours) and D4 (Non-toxic dusts) may also apply.

5212.1 Conservation and Restoration Technicians

Conservation and restoration technicians restore, maintain and store museum and gallery collections and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	2	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

371

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	2	1	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H1*, H3, D4

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

conservation technician

museology technician

restoration technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist in the restoration and conservation of artifacts under the direction of conservators
- **Finger dexterity** to repair paintings, artifacts and equipment using oils, paints and brushes, and to fit objects together using hand tools
- **Objective interest in precision working** to restore artifacts as closely as possible to their original state, and to dismantle, restore, replace and reassemble parts on antique machinery and equipment
- **Methodical interest in compiling** information to prepare chemical solutions used in conserving and restoring specimens and artifacts; and in cleaning dirt, paint, varnish and other substances from specimens and artifacts, and in packing and storing specimens and artifacts after treatment
- **Innovative interest in assisting** conservators by performing minor repairs to specimens and artifacts

Physical Activities

Vision
1 Close visual acuity

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H1* Dangerous chemical substances
H3 Equipment, machinery, tools

Discomforts
D4 Non-toxic dusts

Employment Requirements

Education/Training
4, 5, 6

- Completion of a college program in museum technology or conservation technology
or
other technical or on-the-job training programs related to the work is required.

Workplaces/Employers

Galleries
Museums

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

*Environmental Conditions

- For some occupations in this group, **Hazards H1** (Dangerous chemical substances) may also apply.

5212.2 Curatorial Assistants

Curatorial assistants maintain and store museum and gallery collections and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	4	4	3	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

377

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	4	2	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

curatorial assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist in the research, handling and storage of artifacts
- **Methodical interest** in compiling information such as item identification, condition and research value to document collections of stored artifacts
- **Objective interest** in handling artifacts to prepare and mount for displays; and in using hand and power tools to fabricate and assemble display environments
- **Innovative interest** in assisting in research and performing minor repairs to artifacts and specimens

Physical Activities

Vision

2 Near vision

Colour Discrimination

0 Not relevant

Hearing

2 Verbal interaction

Body Position

4 Other body positions

Limb Co-ordination

2 Multiple limb co-ordination

Strength

2* Light

Environmental Conditions

Location

L1 Regulated inside climate

Hazards

H3 Equipment, machinery, tools

Employment Requirements

Education/Training

4, 5, 6

- Completion of a college program in museum technology or conservation technology
or
other technical or on-the-job training programs related to the work is required.

Workplaces/Employers

Art galleries

Museums

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

*Physical Activities

- For this occupation, **Strength 3** (Medium) and 4 (Heavy) may also apply.

5212.3 Museum and Other Related Interpreters

Museum interpreters conduct guided tours and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	3	4	4	4	4

INTERESTS

SMd

DATA PEOPLE THINGS (DPT)

568

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	2	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

4, 5, 6, 7

Examples of Job Titles

botanical garden interpreter
heritage interpreter
museum interpreter
nature site interpreter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to acquire, understand and retain information concerning points of interest, historical and other data related to museum or site tours
- **Verbal ability** to describe points of interest and historical and other information concerning exhibits or sites
- **Social interest in speaking** with people to answer inquiries and provide information
- **Methodical interest in copying** information when collecting tour tickets and fees; and in conducting successive tours
- **Directive interest** in conducting tours of museums, galleries and historical, heritage and other sites

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 2 Standing and/or walking

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3* Outside

Employment Requirements

Education/Training

- 4, 5, 6, 7

- Completion of a college program in museum technology or conservation technology
or
other technical or on-the-job training programs related to the work is required.
- Interpreters may require a university degree in a field related to museum and gallery work.
- Museum interpreters may require specific scientific or academic credentials for employment by some museums, nature centres or other site.

Workplaces/Employers

Aquariums
Art galleries
Botanical gardens
Cultural centres
Historic and heritage sites
Interpretive centres
Museums
Nature sanctuaries
Parks
Zoos

Occupational Options

Museum interpreters may require specific scientific or academic credentials for employment by some museums, nature centres or other site.

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Tour and Travel Guides (6441)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

*Environmental Conditions

- For some occupations in this group, Location L3 (Outside) may also apply.

5212.4 Museum Extension Officers

Museum extension officers plan and co-ordinate displays and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	3	3	3	4	4	4

INTERESTS

MI d

DATA PEOPLE THINGS (DPT)

168

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

exhibit officer – museum
museum extension officer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist with planning and development of travelling exhibitions and special events
- **Verbal ability** to maintain communications with other institutions, organizations and centres for distribution of exhibits
- **Methodical interest** in making arrangements for acquiring travelling exhibits from other institutions
- **Innovative interest** in co-ordinating information to develop requirements and objectives for travelling exhibits in association with curators and designers, and to develop themes and related interpretative material for travelling exhibits
- **Directive interest** in speaking with others to oversee production and scheduling of travelling exhibits; and in planning and co-ordinating production of exhibits, related public programming and exhibition schedules

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4, 5, 6

- Completion of a college program in museum technology or conservation technology
or
other technical or on-the-job training programs related to the work is required.

Workplaces/Employers

Art galleries

Museums

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Special events program planner and event planners (in 1226 *Conference and Event Planners*)

Tour and Travel Guides (6441)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

5212.5 Museum Registrars and Cataloguers

Museum registrars and cataloguers classify and catalogue museum and gallery artifacts, maintain and store museum and gallery collections and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	2	3	4	4	3	4	4	4

INTERESTS

MDo

DATA PEOPLE THINGS (DPT)

337

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6, 7

Examples of Job Titles

museum objects cataloguer

museum registrar

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to classify and assign registration numbers to artifacts, and to conduct research to document objects
- **Methodical interest** in compiling information on items in museum and gallery collections; and in numbering and recording items acquired for collections
- **Directive interest** in supervising the activities of workers engaged in numbering, cataloguing and preparing files for inventory control
- **Objective interest** in handling, storing and preparing artifacts for shipping

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

4, 5, 6, 7

- Completion of a college program in museum technology of conservation technology
or
other technical or on-the-job training programs related to the work is required.
- Registrars and cataloguers may require a university degree in a field related to museum and gallery work.

Workplaces/Employers

Art galleries

Museums

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

5212.6 Preparators and Museology Technicians

Preparators and museology technicians care for collections, set-up exhibits and displays and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

381

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	4	2	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

museum technician

preparator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to construct, arrange and prepare museum and art gallery exhibits and to protect and care for cultural artifacts and collections during exhibitions, while in transit and in storage
- **Spatial perception** to construct scale models and make castings and moulds of artifacts for display purposes
- **Objective interest in precision working** to construct exhibit furnishings, displays and dioramas, and to build models and install artifacts in displays
- **Methodical interest** in **compiling** information to receive, ship, pack and unpack objects and exhibits; and in preparing artifacts for storage and shipping
- **Innovative interest** in designing exhibit furnishings, display cases and display areas

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 2* Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools

Employment Requirements

Education/Training

- 4, 5, 6

- Completion of a college program in museum technology or conservation technology
or
other technical or on-the-job training programs related to the work is required.

Workplaces/Employers

Art galleries

Cultural centres

Museums

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

*Physical Activities

- For this occupation, **Strength** 3 (Medium) and 4 (Heavy) may also apply.

5212.7 Picture Framers

Picture framers frame artwork and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	4	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

584

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	4	2	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

picture framer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to fabricate custom frames, to measure and cut mats, mat enhancements and glass, and to mount paintings, photographs and other artwork
- **Objective interest** in **operating** glass cutters, hand tools and other equipment to cut glass to fit frames, to measure and cut mounted pictures, to cut materials such as fabric or paper, and to form bordering mats of specified sizes and widths
- **Methodical interest** in **copying** information to make measurements; and in cleaning and placing glass in frames, and in fastening backings to fit frames for holding pictures in place
- **Innovative interest** in fabricating and repairing picture frames

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2* Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools

Employment Requirements

Education/Training
4, 5, 6

- Completion of a college program in museum technology or conservation technology
or
other technical or on-the-job training programs related to the work is required.

Workplaces/Employers

Art galleries

Museums

Retail settings

Self-employment

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

*Physical Activities

- For this occupation, **Strength 3** (Medium) and 4 (Heavy) may also apply.

5212.8 Taxidermists

Taxidermists prepare and mount skins of birds and animals and perform other functions in support of curatorial and conservation activities.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	4	3	3	3

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

281

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	1	4	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, H1, H2, H3, D3

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

taxidermist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to prepare and mount skins of birds and animals for preservation, scientific and display purposes
- **Spatial perception** to visualize how skeletal parts fit together and how finished products will look
- **Form perception** to select and affix representations of teeth, eyes and claws, and to brush fur and feathers to enhance lifelike appearance
- **Objective interest in precision working** to construct realistic body frames from wire and papier-mâché, to model animals in clay, and to remove skins from carcasses with knives, scissors and other tools
- **Methodical interest** in cleaning, preparing, preserving and mounting skins of birds and animals for display
- **Innovative interest in analyzing** information to prepare exhibits with mounted animals and representations of natural surroundings

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H1 Dangerous chemical substances
- H2 Biological agents
- H3 Equipment, machinery, tools

Discomforts

- D3 Odours

Employment Requirements

Education/Training

- 4, 5, 6

- Completion of a college program in museum studies or conservation technology
or
other technical or on-the-job training programs related to the work is required.

Workplaces/Employers

Art galleries

Museums

Retail settings

Self-employment

Similar Occupations Classified Elsewhere

Assistant curators (in 5112 *Conservators and Curators*)

Museum exhibit designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Remarks

Technical museum and gallery workers may specialize in a specific type of collection.

5221 Photographers

Photographers operate still cameras to photograph people, events, scenes, materials, products and other subjects.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	4	3	3	3

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

060

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	1	2	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H8*

EDUCATION/TRAINING

2+, 5+, 6+, 7+

Examples of Job Titles

aerial photographer
commercial photographer
forensic photographer
industrial photographer
photographer
photojournalist
portrait photographer
scientific photographer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to study requirements of a particular assignment and decide on type of camera, film, lighting and background accessories
- **Spatial perception** to visualize 3-D representation of subjects on 2-D planes
- **Form perception** to perceive details in subject to be photographed, and to visualize and use the best arrangement, shade and light for optimum results
- **Innovative interest in synthesizing** information to determine picture composition, technique and special treatment to be used concerning subject to be photographed, and to set up arrangement to conceive artistic or special effect; may adapt existing photographic images and create new digitized images to be included in multimedia/new media products
- **Methodical interest in speaking** to arrange and position subjects; and in loading, exposing and unloading film, and in transporting and setting up equipment at assigned locations
- **Objective interest in setting up** equipment, in making technical adjustments to equipment and in photographing subjects; may operate scanners to transfer photographic images to computers to manipulate photographic images; may operate delicate instruments, such as optical microscopes attached to cameras; may process exposed film and use airbrush, computer and other techniques to retouch negatives

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 2 Standing and/or walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Hazards

- H8* Dangerous locations

Employment Requirements

Education/Training

2+, 5+, 6+, 7+

- A bachelor's degree in visual arts with specialization in photography
or
completion of specialized training in photography in high school or college
or
extensive on-the-job training under the supervision of a photographer is required.
- Experience in, or knowledge of computerized photography or digital imaging may be required.
- Creative and technical ability, as demonstrated by a portfolio of work, are required.

Workplaces/Employers

Governments

Magazines

Museums

Newspapers

Photographic studios

Self-employment/freelance

Similar Occupations Classified Elsewhere

Film and Video Camera Operators (5222)

Remarks

Photographers may specialize in areas such as portrait photography, commercial photography, scientific photography, forensic photography, medical photography, digitized photography, multimedia photography or photojournalism.

Medical photographers may work closely with medical illustrators.

***Environmental Conditions**

- For some occupations in this group, **Hazards H8** (Dangerous locations) may also apply.

5222 Film and Video Camera Operators

Film and video camera operators operate motion picture and video cameras and related equipment to record news, live events, films, videos and television broadcasts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	2	2	4	3	3	3

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

064

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	1	3

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H8*

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

assistant camera operator

camera operator

electronic news gathering (ENG) camera operator

film camera operator

motion picture camera operator

studio camera operator

television camera operator

video camera operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles and techniques used in operating film and video cameras to record news, live events, films, videos and television broadcasts
- **Spatial and form perception** to adjust focus, exposure, lighting and other camera settings
- **Objective interest in operating** motion picture and video cameras and related equipment, and in attaching lenses, filters and film magazines to cameras
- **Methodical interest** in testing, maintaining and storing equipment, in labelling and recording contents of exposed film, and in completing report sheets
- **Innovative interest in synthesizing** information to select and set up camera equipment; and in **speaking** with directors and senior members of camera crews to discuss assignments and determine filming sequences, camera movements and picture composition

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 3 Medium

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Hazards

- H8* Dangerous locations

Employment Requirements

Education/Training

- 5+, 6+

- Completion of a college or other technical program in broadcasting, audio-visual technology or a related field *and* experience as a camera assistant are usually required.
- Creative and technical ability, as demonstrated by a portfolio of work and experience, may be required.

Workplaces/Employers

In-house communications facilities
Motion picture production companies
Self-employment/freelance
Television networks and stations
Video production companies

Occupational Options

Progression to supervisory positions is possible with experience.

Progression to director of photography positions is possible with additional training and experience.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

AV assistants (in 5227 *Support Occupations in Motion pictures, Broadcasting and the Performing Arts*)

Filmmakers and directors of photography (in 5131 *Producers, Directors, Choreographers and Related Occupations*)

Photographers (5221)

Video artists (in 5136 *Painters, Sculptors and Other Visual Artists*)

Video transmission operators (in 5224 *Broadcast Technicians*)

Remarks

*Physical Activities

- For some occupations in this group, **Hazards H8** (Dangerous locations) may apply.

5223 Graphic Arts Technicians

Graphic arts technicians assist in conceptualizing projects, interpreting design specifications and sketches, preparing page make-up, lay-out and lettering, and preparing production materials for press, electronic or multimedia publishing.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	3	3

INTERESTS

MOI

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1*	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, D3*

EDUCATION/TRAINING

6+

Examples of Job Titles

animated cartoon technician
animation painter
computer graphics technician
graphics technician
multimedia graphic design technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to assist in the conceptualization of projects; to review graphic designer's instructions; to interpret design specifications and sketches; and to prepare production materials for press, electronic or multimedia publishing
- **Spatial and form perception** to lay out, draw and paint letters, figures, logos and designs for windows, advertisements, billboards, vehicles, books and publications; and to select appropriate textures, shadings and fonts
- **Motor co-ordination and manual dexterity** to produce proofs and camera-ready materials; to prepare film and any other pre-press materials; and to paint or ink individual cells of 2-D and 3-D animated drawings using an electronic palette
- **Finger dexterity** to manipulate brushes, pens, pencils and computer peripherals to produce computerized images and drawings
- **Methodical interest in compiling** information to perform layout, page make-up and placement using conceptual mock-ups and to produce drawings and designs according to designer's specifications
- **Objective interest in precision working** with peripherals, retouching systems, graphic palettes, specialized software and painting equipment to create and transform images
- **Innovative interest in speaking** and working in an interdisciplinary environment; and in producing or assisting in the development and production of design concepts, and in capturing elements such as titles, text, drawings, illustrations, graphics, lettering, colour harmonization, etc. using a computer

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1* Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Discomforts
D3* Odours

Employment Requirements

Education/Training
6+

- A college diploma in commercial or graphic arts, computer graphics or animated design is required.
- Experience or training in multimedia design at a post-secondary, college or technical institution may be required.
- Creative ability and artistic talent, as demonstrated by a portfolio of work, are required.

Workplaces/Employers

Advertising businesses
Marketing and communications departments and firms
Multimedia companies
Printing establishments
Publishing firms
Self-employment
Television and film production companies

Occupational Options

Progression to graphic designer positions is possible with experience or supplementary training.

Similar Occupations Classified Elsewhere

Correspondence, Publication and Related Clerks (1452)

Desktop publishing specialists (in 1423 *Desktop Publishing Operators and Related Occupations*)

Graphic Designers and Illustrators (5241)

Imprinting technologists (in 9472 *Camera, Platemaking and Other Pre-Press Occupations*)

Remarks

*Physical Activities

- For some occupations in this group, **B**ody Position 3 (Sitting, standing, walking) may also apply.

*Environmental Conditions

- For some occupations in this group, **D**iscomforts D3 (Odours) may also apply.

5224 Broadcast Technicians

Broadcast technicians install, set up, test, operate and repair equipment used to record and transmit live and taped radio and television programs and to produce audio and video streaming broadcasts for the Internet.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

282

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0*	3	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6

Examples of Job Titles

broadcast engineer
broadcast technician
broadcast transmitter operator
broadcasting switcher
master control room (MCR) equipment operator – broadcasting
master control room (MCR) technician – broadcasting
mobile broadcasting equipment operator
regional transmitter technician
short-wave receiving station technician
video transmission operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **spatial** and **form perception** to monitor broadcast quality of live and taped radio and television programs; may supervise other broadcast technicians
- **Motor co-ordination** and **finger** and **manual dexterity** to install, set-up, test and operate broadcast systems and equipment
- **Objective interest** in **controlling** and operating radio and television broadcasting systems to broadcast and receive signals; in operating broadcast equipment to produce audio and video streaming broadcasts for the Internet; and in setting up and operating consoles to pick up and select feed sources from different locations and to air radio or television programs and commercials
- **Methodical interest** in **analyzing** information obtained from console meters and other indicators to regulate clarity and range of sounds and colours of broadcasts or recordings
- **Innovative interest** in maintaining, installing and troubleshooting a wide variety of broadcast hardware and software

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 0* Not relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6

- Completion of a college program in broadcast technology or electronics is usually required.

Workplaces/Employers

Broadcast equipment companies

Internet-based communication providers

Radio and television broadcasting networks and stations

Occupational Options

Senior and supervisory positions in this group require experience.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

Film and Video Camera Operators (5222)

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (5226)

Remarks

*Physical Activities

- For some occupations in this group, Colour Discrimination 1 (Relevant) may also apply

5225 Audio and Video Recording Technicians

Audio and video recording technicians operate equipment to record, mix and edit sound, music and videotape for motion pictures, television and radio programs, videos, recordings and live events.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	4	3	3	3

INTERESTS

OMI

DATA PEOPLE THINGS (DPT)

382

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	3	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

audiovisual (AV) technician
multimedia sound technician
postproduction technician
radio technician
recording engineer
recording studio technician
sound effects editor
sound engineer
sound mixer
sound technician
video and sound recorder
video recording technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to set up, prepare, operate and adjust audio, recording, editing and reproducing equipment to record, edit and reproduce music, dialogue and sound input or feed prerecorded material from tapes, records, compact discs, digital audio devices, and input from live microphones, satellites or microwave trucks for films, videos, radio and television programs and recordings; may supervise and co-ordinate the work of other audio and video recording technicians
- **Motor co-ordination and finger and manual dexterity** to prepare and operate videotape recording and playback equipment to record videos, television programs, concerts and live events, and to edit videotapes after production
- **Objective interest in controlling** audio consoles or computers, tape machines, microphones and sound processing equipment to mix, combine and edit music and sound at concerts and live events and to operate electronic equipment to generate program titles, credits, subtitles, graphic backgrounds or animation for television programs
- **Methodical interest in compiling** information to play back edited sound tracks in synchronization with motion picture films
- **Innovative interest** in mixing, combining and editing music and sound at concerts and live events, and synchronizing edited dialogue, music and sound effect tracks from different sources

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4, 5, 6

- Completion of a college or other program in recording engineering, audiovisual technology or a related field
or
experience as a recording studio assistant is usually required.

Workplaces/Employers

Bands

Clubs

Film, video and concert production companies

Multimedia companies

Radio and television networks and stations

Sound recording firms

Theatre and dance companies

Occupational Options

Senior occupations in this group, such as recording and sound engineers, require experience.

Similar Occupations Classified Elsewhere

Broadcast Technicians (5224)

Film and Video Camera Operators (5222)

Film editors (in 5131 Producers, Directors, Choreographers and Related Occupations)

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (5226)

5226.1 Floor Managers

Floor managers co-ordinate and supervise activities for television, radio and motion picture productions, news broadcasts, theatre and stage productions, and other live and recorded productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	3	3	4	4

INTERESTS

D Mo

DATA PEOPLE THINGS (DPT)

168

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	2	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

floor manager

program co-ordinator – broadcasting

stage manager

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, and oversee the activities of technical and other personnel engaged in the production and staging of television, radio and motion picture productions, news broadcasts, theatre and other live and recorded productions
- **Directive interest** in co-ordinating activities of camera operators, other technical staff and production
- **Methodical interest** in signalling to cue announcers, actors and performers during news broadcasts and television program tapings
- **Objective interest** in planning and arranging technical requirements of production and broadcast facilities

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
2 Standing and/or walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+, R

- Completion of a college or university program in broadcasting, theatre arts or a related field *and* several years of experience in a related support or assisting occupation in motion pictures, broadcasting or the performing arts are required.
- Floor managers require a portfolio of work.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters
Motion picture and video production companies
Recording studios
Television and radio stations and networks
Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

Broadcast Technicians (5224)

Film and Video Camera Operators (5222)

Lighting designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

5226.2 Key Grips

Key grips supervise and co-ordinate activities of workers involved in setting-up television and motion picture productions, news broadcasts, theatre and stage productions, and other live productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	4	4	4

INTERESTS

DMo

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

5+, 6+, R

Examples of Job Titles

key grip

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan, organize, supervise and co-ordinate activities of stage crews in the production of theatrical and other performances
- **Directive interest** in supervising grips, gaffers and stagehands who rig, place, move and dismantle lights, sets, backdrops, scenery and other stage equipment
- **Methodical interest** in co-ordinating information to interpret stage-set diagrams and determine layouts; and in reading annotated scripts during performances to cue for curtain, lights, properties and sound effects
- **Objective interest** in overseeing activities of stage crews engaged in placing scenery and other stage equipment, and in devising emergency substitutes for stage equipment and properties

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Employment Requirements

Education/Training

5+, 6+, R

- Completion of a college program or other specialized training program in technical production for theatre is required.
- Several years of experience in a related support or assisting occupation in motion pictures, broadcasting or the performing arts are required.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters

Motion picture and video production companies

Recording studios

Television and radio stations and networks

Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

Broadcast Technicians (5224)

Film and Video Camera Operators (5222)

Lighting designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

5226.3 Gaffers and Lighting Technicians

Gaffers and lighting technicians perform lighting activities for television and motion picture productions, news broadcasts, theatre and stage productions, and other live and recorded productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	4	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

361

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	4	2	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H3, H4

EDUCATION/TRAINING

5, 6, R

Examples of Job Titles

gaffer

lighting technician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine lighting effects during stage performances, television broadcasts, motion picture and other productions
- **Objective interest** in **precision working** to position, set up and operate various lighting equipment to illuminate sets, studios and scenes, and to select and position equipment, manually or using a hoist
- **Innovative interest** in varying intensity of light using a wide range of techniques, and in repairing lighting equipment
- **Methodical interest** in **compiling** information to follow cue sheets and scripts when **signalling** electrical crews to operate lights during filming and broadcasting

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2* Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H3 Equipment, machinery, tools
H4 Electricity

Employment Requirements

Education/Training
5, 6, R

- Completion of a college program or other specialized training program in technical production for theatre is required.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters
Motion picture and video production companies
Recording studios
Television and radio stations and networks
Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

Broadcast Technicians (5224)

Film and Video Camera Operators (5222)

Lighting designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

Remarks

*Physical Activities

- For some occupations in this group, **Strength 3 (Medium)** or **4 (Heavy)** may also apply.

5226.4 Stunt Co-ordinators and Special Effects Technicians

Stunt co-ordinators and special effects technicians develop, co-ordinate and oversee stunts and special effects for television and motion picture productions, theatre and stage productions, and other live and recorded productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	3	4	3	4	3

INTERESTS

IOD

DATA PEOPLE THINGS (DPT)

261

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	2	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H1, H3, H4, H6, H7, H8, D1, D2, D3, D4, D5

EDUCATION/TRAINING

6+, R

Examples of Job Titles

special effects technician

stunt co-ordinator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design and co-ordinate special effects such as fires, explosions and crashes
- **Spatial perception** to draw plans for contrivances such as towers, conveyors and wiring layouts for the set-up of special effects, actions and illusions
- **Innovative interest in analyzing** information to create the illusion of phenomena such as snow, rain, smoke, waves, thunder and impact of projectiles and other effects
- **Objective interest in precision working** with mechanical, chemical and electrical devices to animate incidents and to simulate special effects
- **Directive interest in speaking** to arrange provision of contrivances for the set-up of special effects; and in determining methods to create desired effects

Physical Activities

Vision
4 Total visual field

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H1 Dangerous chemical substances
H3 Equipment, machinery, tools
H4 Electricity
H6 Flying particles, falling objects
H7 Fire, steam, hot surfaces
H8 Dangerous locations

Discomforts
D1 Noise
D2 Vibration
D3 Odours
D4 Non-toxic dusts
D5 Wetness

Employment Requirements

Education/Training
6+, R

- Completion of a college program in broadcasting, theatre arts or a related field *and* several years of experience in a related support or assisting occupation in motion pictures, broadcasting or the performing arts are required.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters
Motion picture and video production companies
Recording studios
Television and radio stations and networks
Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians
(5225)

Broadcast Technicians (5224)

Film and Video Camera Operators
(5222)

Lighting designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Other Performers (5232)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts
(5227)

5226.5 Make-Up Artists

Make-up artists apply make-up for television and motion picture productions, news broadcasts, theatre and stage productions, and other live and recorded productions.

Profile Summary									Examples of Job Titles	
APTITUDES									make-up artist	
G	V	N	S	P	Q	K	F	M		
3	3	4	3	2	4	3	3	3		
INTERESTS										
OMI										
DATA PEOPLE THINGS (DPT)										
381										
PHYSICAL ACTIVITIES (PA)										
V	C	H	B	L	S					
2	1	1	4	1	1					
ENVIRONMENTAL CONDITIONS (EC)										
L1										
EDUCATION/TRAINING										
6+, R										

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply cosmetic and special effects make-up on actors and other performers, and to ensure artistic unity of make-up with settings and costumes
- **Form perception** to observe details of skin and facial features, sketches, photos and plaster models
- **Objective interest in precision working** to manipulate brushes and other devices used for the care of skin, and to apply cosmetic and special effects make-up on actors and other performers
- **Methodical interest in compiling** information from period files to obtain images of characters to be depicted; and in requisitioning cosmetics and make-up materials
- **Innovative interest** in applying prostheses, cosmetics and make-up to change physical characteristics such as facial features, skin texture, body contours and dimensions, and in producing effects appropriate to characters and situations

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, R

- Completion of a college program in broadcasting, theatre arts or a related field *and* several years of experience in a related support or assisting occupation in motion pictures, broadcasting or the performing arts are required.
- Make-up artists working in motion pictures, broadcasting and the performing arts may require a training program.
- Creative ability, as demonstrated by a portfolio of work, is required for make-up artists.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters

Motion picture and video production companies

Recording studios

Television stations and networks

Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Cosmeticians (in 6482 *Estheticians, Electrologists and Related Occupations*)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

5226.6 Costumiers

Costumiers oversee acquisition, maintenance and use of costumes and other clothing for television and motion picture productions, news broadcasts, theatre and stage productions, and other live and recorded productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	4	4	4

INTERESTS

DMo

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

costumier

wardrobe co-ordinator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to oversee the acquisition and maintenance of wardrobes, and to study scripts to determine necessary costumes
- **Verbal ability** to confer with directing and production personnel
- **Directive interest in supervising** and co-ordinating the costuming of casts for motion picture, television and stage productions
- **Methodical interest in co-ordinating** information to prepare and issue requisitions and work orders for acquisition, fitting and maintenance of costumes and wardrobe accessories
- **Objective interest** in overseeing the activities of workers engaged in procuring, making, altering and caring for costumes and other wardrobe accessories

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, R

- Completion of a college program in broadcasting, theatre arts or a related field
and
several years of experience in a related support or assisting occupation in motion pictures, broadcasting or the performing arts are required.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters

Motion picture and video production companies

Television stations and networks

Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Tailors, Dressmakers, Furriers and Milliners (7342)

Theatre, Fashion, Exhibit and Other Creative Designers (5243)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

5226.7 Settings Shop Foremen/women

Settings shop foremen/women assist in preparing construction specifications for sets and co-ordinate the activities of workers building sets for television, motion picture and theatre productions, news broadcasts, and other live and recorded productions.

Profile Summary										Examples of Job Titles	
APTITUDES										settings shop foreman/woman	
G	V	N	S	P	Q	K	F	M			
3	3	3	2	2	3	4	4	3			
INTERESTS											
DMO											
DATA PEOPLE THINGS (DPT)											
138											
PHYSICAL ACTIVITIES (PA)											
V	C	H	B	L	S						
3	1	2	3	1	1						
ENVIRONMENTAL CONDITIONS (EC)											
L1, L3*, H3*, H6*, D1, D3*, D4											
EDUCATION/TRAINING											
5+, 6+, R											

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **spatial** and **form perception** to read and interpret sketches and artistic drawings, and discuss set design requirements with set designers and production personnel to assist in the development of specifications for the construction of sets
- **Directive interest** in **supervising** stage and set construction in production studio, on stage and on location; in planning construction schedules and distribution of work; and in ensuring a safe working environment
- **Objective interest** in ensuring that equipment and tools are in proper working condition and in maintaining a hazard-free workplace
- **Methodical interest** in **co-ordinating** information to assess construction time requirements, estimate costs of building materials and to prepare construction drawings and instructions for assembling of sets

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Hazards
H3* Equipment, machinery, tools
H6* Flying particles, falling objects

Discomforts
D1 Noise
D3* Odours
D4 Non-toxic dusts

Employment Requirements

Education/Training
5+, 6+, R

- Completion of a college program or other specialized training program in technical production for theatre is required.
- Several years of experience in a related support or assisting occupation in motion pictures, broadcasting or the performing arts are required.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters
Motion picture and video production companies
Television stations and networks
Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Stage carpenters (in 7271 *Carpenters*)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

Theatre, Fashion, Exhibit and Other Creative Designers (5243)

Remarks

*Environmental Conditions

- For this occupation, Location L3 (Outside), Hazards H3 (Equipment, machinery and tools) and H6 (Flying particles, falling objects) and Discomforts D3 (Odours) may also apply.

5226.8 Property Masters

Property masters co-ordinate the acquisition, maintenance and use of props for television, motion picture, video, theatre and other live and recorded productions performances.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	3	3	3	4	4	4

INTERESTS

DMO

DATA PEOPLE THINGS (DPT)

138

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, R

Examples of Job Titles

properties custodian – stage productions or motion pictures

property master

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to read script and to determine prop requirements
- **Directive interest** in supervising activities of personnel engaged in obtaining, moving, fabricating and storing properties used in motion picture, theatrical and other productions
- **Methodical interest** in studying period styles to correctly represent time of plot, consulting period files and utilizing knowledge of historical, geographical and artistic factors
- **Objective interest** in co-ordinating arrangements for construction, purchase and rental of properties

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+, 6+, R

- Completion of a college program or other specialized training program in technical production for theatre is required.
- Several years of experience in a related support or assisting occupation in motion pictures, broadcasting or the performing arts are required.
- Membership in a related union may be required.

Workplaces/Employers

Concert promoters
Motion picture and video production companies
Recording studios
Television stations and networks
Theatre, stage and dance companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Similar Occupations Classified Elsewhere

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

Theatre, Fashion, Exhibit and Other Creative Designers (5243)

5227.1 Camera Crane Operators

Camera crane operators assist technical workers and perform other support duties related to broadcasting and the production of motion pictures and the performing arts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

562

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	4	1	4

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, H3, H4

EDUCATION/TRAINING

4

Examples of Job Titles

boom grip
camera crane operator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to set up, assemble, adjust, maintain and replace reels and projector equipment and operate mobile camera platforms, microphone booms and lighting equipment
- **Objective interest** in controlling dollies and hand trucks to transport and position equipment, such as cameras, electrical fixtures and props, on stages and motion picture sets; in erecting structures from stock scaffolding using hand tools; and in using automated equipment to change and install electronic control panels
- **Methodical interest** in copying information to move stage equipment and to build temporary structures to accommodate equipment
- **Innovative interest** in speaking with production personnel and other workers to assemble and set up stage properties to achieve desired effects; and in detecting and repairing mechanical and electrical problems

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
4 Heavy

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Hazards
H3 Equipment, machinery, tools
H4 Electricity

Employment Requirements

Education/Training
4

- Completion of secondary school is usually required.
- Completion of college courses in broadcasting, theatre arts or a related field
or
a period of on-the-job training is required.

Workplaces/Employers

Motion picture and video production companies

Recording studios

Television stations and networks

Theatre and stage companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Progression to related technical occupations in motion pictures, broadcasting or the performing arts is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

Broadcast Technicians (5224)

Film and Video Camera Operators (5222)

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (5226)

Remarks

*Environmental Conditions

- For some occupations in this group, Location L3 (Outside) may also apply.

5227.2 Projectionists

Projectionists show films by operating and maintaining projection equipment.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	3	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

684

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	3	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, R

Examples of Job Titles

projectionist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to prepare films by examining film quality, rewinding films onto reels and marking film reels according to sequences
- **Objective interest** in operating motion picture projection and sound-reproducing equipment; and in loading film reels onto movie theatre projectors and in adjusting focus, sound levels and other projector and theatre settings; and in carrying out fire evacuation plans
- **Innovative interest** in repairing film in case of breakage, in regulating audio controls to produce desired audio mix and sound levels, and in maintaining both manual and automated projection equipment
- **Methodical interest** in comparing information to switch on projectors and audio amplifiers as well as to switch on alternative projectors when special symbols appear on screen to guard continuity of storylines; and in dimming house lights and opening stage curtains according to schedule

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 3 Other sound discrimination

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

- 4, R

- Completion of secondary school is usually required.
- Completion of college courses in broadcasting, theatre arts or a related field
or
a period of on-the-job training is required.
- Certification for projectionists is available, but voluntary, in New Brunswick. In Quebec, projectionists are regulated under operators of electrical machines, cinema equipment.
- Projectionists are required to be licensed by their province of employment.

Workplaces/Employers

Automated cinemas

Drive-in theatres

IMAX cinemas

Occupational Options

Progression to related technical occupations in motion pictures, broadcasting or the performing arts is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians
(5225)

Broadcast Technicians (5224)

Film and Video Camera Operators
(5222)

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts
(5226)

5227.3 Props Persons and Set Builders

Props persons and set builders assist technical workers and perform other support duties related to broadcasting and the production of motion pictures and the performing arts.

Profile Summary										Examples of Job Titles		
APTITUDES										props person		
G	V	N	S	P	Q	K	F	M		set builder		
3	3	3	2	3	4	3	3	3		set dresser		
INTERESTS												
OMi												
DATA PEOPLE THINGS (DPT)												
281												
PHYSICAL ACTIVITIES (PA)												
V	C	H	B	L	S							
3	1	2	4	2	3							
ENVIRONMENTAL CONDITIONS (EC)												
L1, L3*, H3												
EDUCATION/TRAINING												
4												

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to research, build and maintain props and other set decorations
- **Spatial perception** to rig and control elements of sets that move and function to depict action
- **Objective interest in precision working** to fabricate props, miniatures and sets from wood, cardboard, plastic, rubber, cloth, metal and other materials using hand tools, and to set up and operate machines and equipment such as saws, lathes and drills
- **Methodical interest** in maintaining props and other set decorations
- **Innovative interest in analyzing** sketches, blueprints, staging or floor plans and instructions to determine production requirements and work procedures

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3 Medium

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Hazards
H3 Equipment, machinery, tools

Employment Requirements

Education/Training
4

- Completion of secondary school is usually required.
- Completion of college courses in broadcasting, theatre arts or a related field
or
a period of on-the-job training is required.

Workplaces/Employers

Motion picture and video production companies

Recording studios

Television stations and networks

Theatre and stage companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Progression to related technical occupations in motion pictures, broadcasting or the performing arts is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

Broadcast Technicians (5224)

Carpenters (7271)

Film and Video Camera Operators (5222)

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (5226)

Remarks

*Environmental Conditions

- For some occupations in this group, Location L3 (Outside) may also apply.

5227.4 Script Assistants

Script assistants help technical workers and perform other support duties related to broadcasting and the production of motion pictures and the performing arts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	4	4	3	4	4	4

INTERESTS

MOs

DATA PEOPLE THINGS (DPT)

577

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

4

Examples of Job Titles

prompter

script assistant

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to keep detailed notes of all actions, positions and camera angles, and to examine scripts and prepare lists of props
- **Verbal ability** to prepare rehearsal call-sheets and prompt members of the cast and guests from scripts during rehearsals and broadcasts
- **Methodical interest in copying** information to verify placement of props, films, slides, title cards and similar items before broadcasts, to record duration of scenes and programs, and to give directions to personnel for sign on and sign off, station breaks and film feature programs
- **Objective interest in handling** stopwatches to time duration of individual scenes and overall programs; and in photographing and dating scenes
- **Social interest in assisting** technical workers; and in distributing scripts to actors, arranging for rehearsal quarters and contacting members of the cast and guests to ensure that make-up has been applied

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
- L3* Outside

Employment Requirements

Education/Training

4

- Completion of secondary school is usually required.
- Completion of college courses in broadcasting, theatre arts or a related field
or
a period of on-the-job training is required.

Workplaces/Employers

Motion picture and video production companies

Recording studios

Television and radio stations and networks

Theatre and stage companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Progression to related technical occupations in motion pictures, broadcasting or the performing arts is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians (5225)

Broadcast Technicians (5224)

Film and Video Camera Operators (5222)

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (5226)

Remarks

*Environmental Conditions

- For some occupations in this group, Location L3 (Outside) may also apply.

5227.5 Grips and Riggers

Grips and riggers assist technical workers and perform other support duties related to broadcasting and the production of motion pictures and the performing arts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	5	3	4	5	3	4	3

INTERESTS

OMi

DATA PEOPLE THINGS (DPT)

684

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	4	2	3*

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, H3

EDUCATION/TRAINING

4

Examples of Job Titles

grip
rigger
stagehand

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to determine set specifications and discuss set-design requirements with production personnel
- **Motor co-ordination** to climb ladders and scaffolding
- **Manual dexterity** to use equipment for transporting and positioning stage fixtures and props
- **Objective interest in operating** dollies and handcarts; and in constructing wooden framework for scenery and set components, installing rigging to raise, lower and support stage equipment and erecting sets for theatrical productions
- **Methodical interest in comparing** information to change scenery between acts and scenes according to scripts; and in rigging, placing, moving and dismantling sets, backdrops, scenery and other stage equipment
- **Innovative interest** in testing apparatus to ensure proper functioning and safety

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3* Medium

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Hazards
H3 Equipment, machinery, tools

Employment Requirements

Education/Training
4

- Completion of secondary school is usually required.
- Completion of college courses in broadcasting, theatre arts or a related field
or
a period of on-the-job training is required.

Workplaces/Employers

Motion picture and video production companies

Television stations and networks

Theatre and stage companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Progression to related technical occupations in motion pictures, broadcasting or the performing arts is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Audio and Video Recording Technicians
(5225)

Broadcast Technicians (5224)

Film and Video Camera Operators (5222)

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts
(5226)

Remarks

*Physical Activities

- For some occupations in this group, Strength 4 (Heavy) may also apply.

*Environmental Conditions

- For some occupations in this group, Location L3 (Outside) may also apply.

5227.6 Dressers

Dressers assist cast members with wardrobes and perform support duties related to broadcasting and the production of motion pictures and the performing arts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	4	4	3	4	3	3	3

INTERESTS

MOs

DATA PEOPLE THINGS (DPT)

677

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	4	2	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, H3

EDUCATION/TRAINING

4

Examples of Job Titles

dresser

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to care for costumes and wardrobe accessories of theatrical, television and motion picture production casts
- **Motor co-ordination and finger and manual dexterity** to help cast members put on complicated costumes to facilitate quick changes
- **Methodical interest in comparing** information for arranging costumes on dress racks in stage appearance sequences; and in cleaning, maintaining, transporting and storing costumes
- **Objective interest in handling** wardrobe items, accessories and the equipment to maintain, repair and alter them
- **Social interest in assisting** performers to dress in costumes

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 2* Light

Environmental Conditions

Location

- L1 Regulated inside climate
L3* Outside

Hazards

- H3 Equipment, machinery, tools

Employment Requirements

Education/Training

4

- Completion of secondary school is usually required.
- Completion of college courses in broadcasting, theatre arts or a related field
or
a period of on-the-job training is required.

Workplaces/Employers

Motion picture and video production companies

Television stations and networks

Theatre and stage companies

Occupational Options

There may be an overlap in duties among occupations in this group, depending on the size of the production or broadcasting studio.

Progression to related technical occupations in motion pictures, broadcasting or the performing arts is possible with additional training or experience.

Similar Occupations Classified Elsewhere

Other Technical and Co-ordinating Occupations in Motion Pictures, Broadcasting and the Performing Arts (5226)

Remarks

*Physical Activities

- For this occupation, **Strength 3** (Medium) may also apply.

*Environmental Conditions

- For this occupation, **Location L3** (Outside) may also apply.

5231 Announcers and Other Broadcasters

Announcers and other broadcasters read news, sports, weather, commercial and public service messages and host entertainment and information programs for broadcast on radio and television.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	3	4	4	3	4	4	4

INTERESTS

MSI

DATA PEOPLE THINGS (DPT)

347

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, R

Examples of Job Titles

announcer
broadcaster
disc jockey
news reader
radio host/hostess
sports announcer
talk show host/hostess
television host/hostess
traffic reporter
weather reporter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to select and introduce music, videos and other entertainment material for broadcasts, and to make commercial and public service announcements
- **Verbal ability** to read news, sports and weather for radio and television; may present own material as well as material prepared by others
- **Methodical interest in handling** music, videos and other entertainment materials for broadcasts
- **Social interest in diverting** audiences by acting as hosts/hostesses and masters of ceremonies, by introducing and interviewing guests and by conducting proceedings of shows and programs
- **Innovative interest in compiling** information by maintaining contact with external sources or by observing traffic from air and land vehicles for the purpose of reporting on traffic conditions; and in using information provided from weather forecasting services for the purpose of reporting on weather conditions and in using digitized replay to do analysis of sporting events

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
1 Sitting

Limb Co-ordination
0 Not relevant

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, R

- Completion of a college radio or television arts program is usually required.
- Practical training, such as work at a college radio station, may be required.
- Talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type of performance may be required.

Workplaces/Employers

Radio and television advertising firms

Radio and television stations and networks

Occupational Options

Movement to occupations in journalism is possible for those with an educational background in journalism or a related field.

Similar Occupations Classified Elsewhere

Actors and Comedians (5135)

Broadcast journalists who prepare and present their own reports (in 5123 *Journalists*)

Support Occupations in Motion Pictures, Broadcasting and the Performing Arts (5227)

5232.1 Buskers

Buskers are entertainers not elsewhere classified who perform in a variety of settings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	4	3	3	4	3	3	3

INTERESTS

ISo

DATA PEOPLE THINGS (DPT)

147

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	3	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

1+, 5+, R

Examples of Job Titles

busker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the basic principles and techniques of creative expression, and to adapt to various roles, popularity trends, styles of performing and the mood of audiences
- **Verbal ability** to communicate artistic expression and emotions effectively
- **Innovative interest in co-ordinating** information to develop creative interpretations and presentations, and to communicate through movement, gestures, music and other types of performance
- **Social interest in diverting** passers-by on sidewalks and in parks with magic tricks, juggling acts, short dramatic works, music and other entertaining displays
- **Objective interest in handling** objects used as props and in performing magic tricks and juggling acts

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
1+, 5+, R

- Training for occupations in this group is often obtained under the guidance of a practitioner.
- Talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type or performance may be required.

Workplaces/Employers

Self-employment
Street, park and mall locations

Occupational Options

There is little mobility between the different occupations in the 5232 group.

Similar Occupations Classified Elsewhere

Actors and Comedians (5135)

Dancers (5134)

Musicians and Singers (5133)

5232.2 Circus Performers

Circus performers are entertainers not elsewhere classified who perform in circus acts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	5	3	3	3

INTERESTS

ISo

DATA PEOPLE THINGS (DPT)

144

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	3	4	2	3*

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H8*

EDUCATION/TRAINING

1+, 5+, R

Examples of Job Titles

acrobat
circus performer
clown

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to perform antics, tricks, original and stock comedy routines, and acrobatic acts to entertain audiences
- **Innovative interest** in **co-ordinating** information to devise acrobatic routines, comedic antics and other acts
- **Social interest** in **diverting** and entertaining audiences with thrilling and humorous acts
- **Objective interest** in **operating** equipment and using objects as props to perform routines and acts

Physical Activities

Vision
4 Total visual field

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3* Medium

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Hazards
H8* Dangerous locations

Employment Requirements

Education/Training
1+, 5+, R

- Circus performers and acrobats may require a period of study at a circus school.
- Talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type or performance may be required.

Workplaces/Employers

Circuses
Self-employment

Occupational Options

There is little mobility between the different occupations in the 5232 group.

Similar Occupations Classified Elsewhere

Actors and Comedians (5135)

Dancers (5134)

Musicians and Singers (5133)

Remarks

*Physical Activities

- For some occupations in this group, Strength 4 (Heavy) may also apply.

*Environmental Conditions

- For some occupations in this group, Hazards H8 (Dangerous locations) may also apply.

5232.3 Magicians and Illusionists

Magicians and illusionists are entertainers not elsewhere classified who perform magic acts and illusions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	5	2	2	2

INTERESTS

ISo

DATA PEOPLE THINGS (DPT)

144

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	3	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3, H8*

EDUCATION/TRAINING

1+, 5+, R

Examples of Job Titles

illusionist

magician

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to perform sleight-of-hand tricks, disappearing acts and other acts of illusion
- **Motor co-ordination** and **finger** and **manual dexterity** to perform original and stock tricks to mystify audiences using small props such as playing cards and other items
- **Innovative interest** in **co-ordinating** information to create mystifying acts to entertain audiences
- **Social interest** in **diverting** and entertaining audiences by involving them in magic acts
- **Objective interest** in **manipulating** objects such as ropes, handkerchiefs and hoops; and in using small animals to perform magic tricks and acts

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 0 Not relevant

Hearing

- 3 Other sound discrimination

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate
- L3 Outside

Hazards

- H8* Dangerous locations

Employment Requirements

Education/Training

1+, 5+, R

- Training for occupations in this group is often obtained under the guidance of a practitioner.

- Talent and ability, as demonstrated during an audition, are important hiring criteria.

- Membership in a guild or union related to the occupation or type or performance may be required.

Workplaces/Employers

Advertising companies

Circuses

Production companies

Self-employment

Theatres

Occupational Options

There is little mobility between the different occupations in the 5232 group.

Similar Occupations Classified Elsewhere

Actors and Comedians (5135)

Dancers (5134)

Musicians and Singers (5133)

Remarks

*Environmental Conditions

- For some occupations in this group, **Hazards H8** (Dangerous locations) may also apply.

5232.4 Fashion Models

Fashion models display clothing and merchandise to audiences through a variety of media.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
4	4	5	4	4	5	4	4	4

INTERESTS

SMi

DATA PEOPLE THINGS (DPT)

668

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	4	2	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

4+, R

Examples of Job Titles

fashion model

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to display clothing and merchandise in commercials, advertisements and fashion shows, and to pose for artists and photographers
- **Social interest** in **speaking** with prospective purchasers to provide information about garments, and to perform social functions such as greeting and introducing guests at banquets, luncheons and other events
- **Innovative interest** in posing and modelling by standing, turning and walking to demonstrate garments' features to audiences at fashion shows, private showings and retail establishments
- **Methodical interest** in **comparing** information to dress in sample and completed garments, apply cosmetics, arrange hair and select complementary accessories

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training
4+, R

- Completion of modelling courses is usually required for models.
- Talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type or performance may be required.

Workplaces/Employers

Advertising companies
Modelling agencies
Production companies

Occupational Options

There is little mobility between the different occupations in the 5232 group.

Similar Occupations Classified Elsewhere

Actors and Comedians (5135)

Dancers (5134)

Musicians and Singers (5133)

5232.5 Puppeteers

Puppeteers are performers not elsewhere classified who entertain audiences with puppets.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	2	4	4	2	2	2

INTERESTS

ISo

DATA PEOPLE THINGS (DPT)

144

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	3	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*

EDUCATION/TRAINING

1+, 5+, R

Examples of Job Titles

puppeteer
ventriloquist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to create animation in puppets for presentations, and to give illusion of voice to puppets by talking and singing
- **Spatial perception** to direct movement of puppets during performances
- **Manual and finger dexterity** to insert hands into puppets and manipulate them to produce animation
- **Motor co-ordination** to manipulate bars that control puppet movement through strings and wires from positions above and below stage
- **Innovative interest in co-ordinating** information to create puppet programs, original routines, dialogues and adaptations of stock presentations
- **Social interest in diverting** and entertaining audiences by operating puppets and marionettes for programs and shows
- **Objective interest in operating** equipment to sew puppet costumes; and in using hand tools to assemble puppets from wire and string, and to carve and shape puppet parts from materials such as wood, plaster, papier-mâché and cloth

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L3* Outside

Employment Requirements

Education/Training
1+, 5+, R

- Training for occupations in this group is often obtained under the guidance of a practitioner.
- Talent and ability, as demonstrated during an audition, are important hiring criteria.
- Membership in a guild or union related to the occupation or type or performance may be required.

Workplaces/Employers

Advertising and other production companies

Circuses

Nightclubs

Self-employment

Theatres

Occupational Options

There is little mobility between the different occupations in the 5232 group.

Similar Occupations Classified Elsewhere

Actors and Comedians (5135)

Dancers (5134)

Musicians and Singers (5133)

Remarks

*Environmental Conditions

- For these occupations, Location L3 (Outside) may also apply.

5241.1 Graphic Designers

Graphic designers conceptualize and produce graphic art and visual materials to effectively communicate information for publications, advertising, films, packaging, posters, signs and interactive media such as Web sites and CD-ROMs. Graphic designers who are also supervisors, project managers or consultants are included in this group.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	3	2	2	3

INTERESTS

IMS

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

advertising designer
animator – animated films
cartoonist
commercial artist
cybergraphic designer
graphic artist
graphic designer
graphic designer – multimedia
graphic designer – multimedia, interactive or new media
layout designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conceptualize and produce graphic art and visual materials, to establish guidelines for illustrators and photographers, and to use existing photo and illustration banks and typography guides to produce images that meet clients' communication needs
- **Spatial and form perception** to comprehend forms in space and visualize and depict three-dimensional objects and arrangements on two-dimensional surfaces
- **Motor co-ordination and finger dexterity** to manipulate small objects such as brushes, pens, pencils and software to develop graphic elements that meet clients' objectives
- **Innovative interest in synthesizing** information to prepare sketches, layouts and graphic elements of the subjects to be rendered using traditional tools, multimedia software and image processing, layout and design software; and in determining the medium best suited to produce desired visual effects and most appropriate vehicle for communication
- **Methodical interest in precision working** to co-ordinate all aspects of production for print, audio-visual and electronic materials such as Web sites, CD-ROMs and interactive terminals; and in estimating costs of materials and time to complete designs
- **Social interest in consulting** with clients to establish the overall look, graphic elements and content of communication materials in order to meet their needs; in supervising other graphic designers or graphic arts technicians, in co-ordinating the work of subcontractors, and in working in a multidisciplinary environment

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A university degree in visual arts with specialization in graphic arts, commercial art, graphic communications or cartooning *or* a college diploma in graphic arts is required.
- Experience or training in multimedia design at a post-secondary, college or technical institution may be required.
- Creative ability and artistic talent, as demonstrated by a portfolio of work, is required.

Workplaces/Employers

Advertising firms
Establishments with advertising or communications departments
Graphic design firms
Multimedia production companies
Self-employment

Occupational Options

Progression to management positions or senior design positions is possible with experience.

Similar Occupations Classified Elsewhere

Advertising managers (in 0611 *Sales, Marketing and Advertising Managers*)

Graphic Arts Technicians (5223)

Interior Designers (5242)

Painters, Sculptors and Other Visual Artists (5136)

Web Designers and Developers (2175)

Remarks

The title "registered graphic designer" is recognized by law in Ontario.

5241.2 Illustrators

Illustrators conceptualize and create illustrations to represent information through images.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	3	2	2	3

INTERESTS

IMS

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+

Examples of Job Titles

illustrator
medical illustrator
multimedia illustrator
scientific illustrator

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to conceptualize, develop and produce sketches and final illustrations in order to meet clients' communications needs
- **Spatial and form perception** to comprehend forms in space and visualize and depict 3-D objects and arrangements on 2-D surfaces
- **Motor co-ordination and finger dexterity** to manipulate small objects such as brushes, pens and pencils and to produce final graphic elements
- **Innovative interest in synthesizing** information to develop and produce realistic or representational sketches and final illustrations, by hand or using computer-assisted design (CAD) software, for printed materials such as books, magazines, packaging, greeting cards and stationery, and in producing 2-D and 3-D animated drawings or computer illustrations
- **Methodical interest in precision working** to produce illustrations and to assist in developing storyboards for electronic productions such as multimedia, interactive and digital products and television advertising and productions; may adapt existing illustrations
- **Social interest in consulting** with clients to establish the nature and content of illustrations in order to meet their communication needs

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
6+, 7+

- A university degree in visual arts with specialization in graphic design, commercial art, graphic communications or cartooning is usually required
or
a college diploma in graphic arts is required.
- Experience or training in multimedia design at a post-secondary, college or technical institution may be required.
- In addition to the arts, training in biology, engineering, architecture or a scientific field is usually required for medical, technical and scientific illustrators.
- Creative ability and artistic talent, as demonstrated by a portfolio of work, is required for illustrators.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Advertising managers (in 0611 *Sales, Marketing and Advertising Managers*)

Graphic Arts Technicians (5223)

Interior Designers (5242)

Painters, Sculptors and Other Visual Artists (5136)

Remarks

Illustrators may specialize in a particular field such as illustrations for children, advertising, editorials, humour, or medical, scientific or technical illustration, or multimedia design.

5242 Interior Designers

Interior designers conceptualize and produce esthetic, functional and safe designs for interior spaces in residential, commercial, cultural, institutional and industrial buildings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	3	3	3	4

INTERESTS

IMS

DATA PEOPLE THINGS (DPT)

021

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

6+, 7+, R

Examples of Job Titles

airplane interior designer

interior design technician

interior designer

kitchen designer

office space planner

project manager, interior design

retail space planner

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to create and produce esthetic and functional designs for interior spaces; may direct site work crews and subcontractors
- **Spatial and form perception** to develop detailed plans and 3-D models showing arrangements of walls, dividers, displays, lighting and other fixtures using computer-assisted design (CAD) software and graphics software
- **Innovative interest in synthesizing** information to develop plans, elevations, cross sections and detailed drawings, and advise on selection of colours, finishes and materials, floor and wall coverings, interior and exterior lighting, furniture and other items, taking into account ergonomic and occupational health standards
- **Methodical interest in precision working** with equipment to prepare plans and specifications for final interior designs in accordance with current practices and codes; and to estimate costs and materials required
- **Social interest in consulting** with clients to determine needs, preferences, safety requirements and purpose of space; may advise on leasing, real estate and marketing

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

6+, 7+, R

- A university degree or college diploma in interior design is usually required.
- Creative ability and artistic talent, as demonstrated by a portfolio of work is required.
- Registration with the interior design association in the province of employment may be required.
- The National Council for Interior Design Qualification (NCIDQ) examination may be required after six years of combined study and experience.
- Certification is offered in Nova Scotia, New Brunswick, certain cities in Quebec, in Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

Workplaces/Employers

Airlines
 Architectural firms
 Construction companies
 Hospitals
 Hotel and restaurant chains
 Interior design firms
 Retail establishments
 Self-employment

Occupational Options

Specialization in a particular field of interior design is possible through specific university or college training, or through experience.

Similar Occupations Classified Elsewhere

Graphic Designers and Illustrators (5241)

Industrial Designers (2252)

Interior decorators (in 6421 *Retail Salespersons and Sales Clerks*)

Lighting designers (in 5243 *Theatre, Fashion, Exhibit and Other Creative Designers*)

Remarks

Interior designers may specialize in designing interiors for residential, commercial, institutional, cultural and industrial buildings and for aircraft, ships or trains, trade shows and exhibitions.

5243.1 Theatre Designers

Theatre designers conceptualize and produce set, costume and lighting designs for film, television, theatre and video productions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	3	4	3	3	3

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

061

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+

Examples of Job Titles

costume designer

lighting designer

set designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to read scripts to determine settings, and to study museums and art galleries to be familiar with architecture and decor of locales and periods to be portrayed
- **Spatial perception** to visualize final appearance of costumes, lighting and sets, and to imagine harmonious arrangements of functional and decorative materials and accessories
- **Innovative interest** in **synthesizing** information to create settings, scenic environments, properties, costumes and lighting for theatre, film, video productions, operas and ballets; and in preparing working drawings, creating special stage lighting patterns and selecting colours, decor and accessories
- **Methodical interest** in **precision working** with tools to construct miniature sets in cardboard, plaster and other materials; and in sketching and painting plans and submitting them to directors and producers for approval
- **Directive interest** in **speaking** with workers when overseeing construction of sets

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 6+, 7+

- A university degree in fine arts or visual arts with specialization in theatre design, clothing design or exhibit design
or
completion of a college or art school program in theatre design, clothing design or exhibit design is required.
- Creative ability, as demonstrated by a portfolio of work, is required.
- Use of computer-aided design (CAD) software may be required.

Workplaces/Employers

Broadcasting companies

Festivals

Performing arts companies

Occupational Options

With experience, theatre designers may advance to supervisory and management positions.

Similar Occupations Classified Elsewhere

Graphic Designers and Illustrators
(5241)

Industrial Designers (2252)

Interior Designers (5242)

Remarks

Theatre designers may specialize in costume, lighting or set design.

5243.2 Fashion Designers

Fashion designers conceptualize and produce designs for garments, textiles and accessories.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	2	4	2	2	3

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

061

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	4	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+

Examples of Job Titles

clothing designer
couturier – haute couture
fabric designer
fashion designer
fur designer
jewellery designer
shoe designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles and techniques of design to create clothing and accessories for men, women and children
- **Spatial perception** to visualize the final appearance of fashions
- **Form perception** to write specifications for garments and accessories describing construction, colour schemes and types of materials
- **Motor co-ordination and finger dexterity** to use drawing instruments to sketch designs for producing garments and accessories, and to draw patterns to scale from sketched designs
- **Innovative interest in synthesizing** information to create designs for clothing, textiles and accessories
- **Methodical interest in precision working** with equipment to prepare patterns for manufacture of garments and accessories; and in recording garment specifications on sketches, fitting partially completed garments on customers and models, and marking alterations necessary to achieve correct fit
- **Directive interest in speaking** with customers to advise them on fabrics, styles, colours, current fashion trends and suitability of designs

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Employment Requirements

Education/Training

5+, 6+, 7+

- A university degree in fine arts or visual arts with specialization in theatre design, clothing design or exhibit design
or
completion of a college or art school program in theatre design, clothing design or exhibit design is required.

- Creative ability, as demonstrated by a portfolio of work, is required.

- Use of computer-aided design (CAD) software may be required.

Workplaces/Employers

Clothing and textile companies

Self-employment

Occupational Options

With experience, fashion designers may advance to supervisory and management positions.

Similar Occupations Classified Elsewhere

Patternmakers – Textile, Leather and Fur Products (5245)

Tailors, Dressmakers, Furriers and Milliners (7342)

Remarks

Fashion designers may specialize in men's, women's or children's apparel or in different lines such as sportswear, footwear or formal wear.

5243.3 Exhibit Designers

Exhibit designers conceptualize and produce designs for displays and exhibits.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
2	3	3	2	3	4	3	3	3

INTERESTS

IMD

DATA PEOPLE THINGS (DPT)

061

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

5+, 6+, 7+

Examples of Job Titles

- display designer
- museum exhibit designer
- store display designer
- window display designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles and techniques of design and decoration to create and set up exhibitions and displays for advertising, publicity and educational purposes
- **Spatial perception** to study sketches and photos to determine colours, shading and perspective, and to visualize arrangements of materials and backgrounds
- **Innovative interest in synthesizing** information to develop new ideas and esthetic and practical solutions to meet customers' requirements; and in planning and developing permanent and temporary or moveable exhibits and displays for museum exhibitions, trade shows, conventions, retail spaces and for other exhibitions
- **Methodical interest in precision working** with drafting equipment and computer-aided design (CAD) software to prepare final designs; and in submitting designs to supervisors and clients for approval
- **Directive interest in speaking** to direct workers who are erecting displays, making working drawings and models of displays, and positioning spotlights, coloured lighting and other illumination; and in evaluating information regarding developments in materials and styles

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
5+, 6+, 7+

- A university degree in fine arts or visual arts
or
completion of a college or art school program is required.
- Creative ability, as demonstrated by a portfolio of work, is required.
- Use of computer-aided design (CAD) software may be required.

Workplaces/Employers

Manufacturing establishments
Museums
Retail businesses
Self-employment

Occupational Options

With experience, designers may advance to supervisory and management positions.

Similar Occupations Classified Elsewhere

Diorama makers – museum and galleries (in 5212 *Technical Occupations Related to Museums and Art Galleries*)

Industrial Designers (2252)

Interior Designers (5242)

5244.1 Carvers

Carvers use manual and artistic skills to design and make ornamental objects and carvings.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	3	2	2	4	2	2	2

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	0*	1	4	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L3*, H3, D4

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artisan

carver

craftsperson

totem pole carver

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to produce carvings from wood, stone and other materials, and to carve ornamental designs using hand tools and woodworking machines
- **Spatial and form perception** to visualize and understand the relationships of form, balance and other elements in artistic carvings
- **Motor co-ordination** to carve symbols and designs in relief, and to grind hand tools using hones and grinding wheels
- **Manual and finger dexterity** to draw outlines on materials, rough out designs, cut along outlines and carve details using hand tools
- **Innovative interest in synthesizing** information to design and develop carvings from wood, stone and other materials, and to carve ornamental designs and patterns into wooden furniture and other objects
- **Objective interest in precision working** with woodworking machines and hand tools such as gouges, knives and chisels to carve details and produce carvings
- **Methodical interest** in smoothing and polishing carved objects using abrasives and rubbing compounds to finish products

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 0* Not relevant

Hearing

- 1 Limited

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate
- L3* Outside

Hazards

- H3 Equipment, machinery, tools

Discomforts

- D4 Non-toxic dusts

Employment Requirements

Education/Training

5+, 6+

- Skills are often learned through apprenticeship with a master craftsman.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Painters, Sculptors and Other Visual Artists (5136)

Remarks

*Physical Activities

- For these occupations, **Colour Discrimination 1** (Relevant) may also apply.

*Environmental Conditions

- For these occupations, **Location L3** (Outside) may also apply.

5244.2 Glass Blowers

Glass blowers use manual and artistic skills to design and make ornamental and specialty glass objects.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	2	2	4	2	3	2

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	3	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, H3, H7

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artisan
craftsperson
glass blower

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand glass blowing operations, and to acquire and apply glass-blowing techniques to create ornamental and specialty glass objects
- **Spatial perception** to visualize styles and forms of artistic objects and glass ornaments
- **Form perception** to observe molten glass in melting furnaces to determine readiness for use in production process, and to detect flaws in finished glassware
- **Motor co-ordination** to gather molten glass on the tips of blowpipes, and to blow through pipes to inflate molten glass while rotating pipes manually to prevent sagging in order to attain desired semi-finished, free-form shapes and sizes
- **Innovative interest** in synthesizing information using knowledge of glass characteristics and glass artisan skills to design and create ornamental glass objects
- **Objective interest** in **precision working** with blowpipes, hand tools and equipment to blow and sculpt semi-finished, free-form glass objects into final forms and proportions
- **Methodical interest** in following a sequence of steps to shape molten glass into semi-finished objects, and to reheat, shape and form individual parts of these objects to achieve final artistic forms

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate
L2 Unregulated inside climate

Hazards
H3 Equipment, machinery, tools
H7 Fire, steam, hot surfaces

Employment Requirements

Education/Training
5+, 6+

- Skills are often learned through apprenticeship with a master craftsperson.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Glass Forming and Finishing Machine Operators and Glass Cutters (9413)

Jewellers, Watch Repairers and Related Occupations (7344)

Painters, Sculptors and Other Visual Artists (5136)

5244.3 Metal Arts Workers

Metal arts workers use manual and artistic skills to design and make ornamental objects, jewellery and other craft objects from metal.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	2	2	4	2	2	2

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
1	1	1	1	1	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H7*

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artisan
craftsperson
metal arts worker
silversmith

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to create designs and develop ornamental objects such as jewellery, utensils, implements, wall hangings and objects from gold, silver, copper, pewter and other metals
- **Spatial and form perception** to visualize artistic objects and designs made of metal, to detect detail in work pieces, designs and lettering, and to see slight differences in widths and lengths of lines
- **Motor co-ordination** to mount work pieces in holding devices and cut designs using engraving tools
- **Finger and manual dexterity** to sketch designs in coatings applied to metal surfaces, and to mark reference points and outlines using scribes and gravers
- **Innovative interest in synthesizing** information using knowledge of metal characteristics and artisan's skills to design and create jewellery, utensils, implements, wall hangings, artistic objects and craft objects from gold, silver, copper, pewter and other metal
- **Objective interest in precision working** with hand and power tools to cut designs in surfaces of work pieces, to shape metals into desired forms, to solder pieces together, to drill, cut and file settings for jewellery, and to engrave decorative designs and lettering
- **Methodical interest** in computing dimensions of lettering and designs from sketches and drawings, and in marking and scribing layout lines on work pieces; may operate annealing ovens to soften metals

Physical Activities

Vision

- 1 Close visual acuity

Colour Discrimination

- 1 Relevant

Hearing

- 1 Limited

Body Position

- 1 Sitting

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate

Hazards

- H3 Equipment, machinery, tools
- H7* Fire, steam, hot surfaces

Employment Requirements

Education/Training

5+, 6+

- Skills are often learned through apprenticeship with a master craftsperson.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Jewellers, Watch Repairers and Related Occupations (7344)

Metalworking Machine Operators (9514)

Painters, Sculptors and Other Visual Artists (5136)

Remarks

*Environmental Conditions

- For some occupations in this group, Hazards H7 (Fire, steam, hot surfaces) may also apply.

5244.4 Potters

Potters use manual and artistic skills to design and make pottery.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	2	2	4	2	2	2

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	2	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H7, D5

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artisan
craftsperson
potter

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design ornamental and functional earthenware pieces and create them using clay moulds, potters' wheels and other equipment, glazing materials and kilns
- **Spatial and form perception** to visualize shapes, styles and dimensions of pottery designs that are to be formed as unique pieces or as models for making casting moulds, and to observe flaws in glazing and imperfections
- **Motor co-ordination and finger and manual dexterity** to position balls of clay in centers of plaster bats secured to potters' wheels and to press on insides and outsides of emerging clay cylinders with hands and fingers to raise and shape pieces to desired forms
- **Innovative interest in synthesizing** information and applying knowledge of clay, production processes and techniques to design and create ornamental and functional ceramic pieces
- **Objective interest in precision working** manually and with potters' wheels, by adjusting speed constantly to conform with changing firmness of clay pieces as they become larger and their walls thinner; and in judging degrees of change in clay pieces by feel
- **Methodical interest** in using rubber scrapers and wet sponges to trim and smooth surfaces, in placing finished pieces on racks to dry, and in glazing pieces and firing them in kilns

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
2 Multiple limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools
H7 Fire, steam, hot surfaces

Discomforts
D5 Wetness

Employment Requirements

Education/Training
5+, 6+

- Skills are often learned through apprenticeship with a master craftsperson.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Clay products machine operator (in 9414 *Concrete, Clay and Stone Forming Operators*)

Painters, Sculptors and Other Visual Artists (5136)

5244.5 Stained Glass Artists

Stained glass artists use manual and artistic skills to design and make ornamental objects and windows from stained glass.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	2	2	4	2	2	2

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	4	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, H7, D3*

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artisan
craftsperson
stained glass artist

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to design and create stained glass for windows, lampshades and other objects, using knowledge of portraiture, church symbolism, heraldry, ornamental design and the effects of colour, light and shade on glass
- **Spatial perception** to visualize final appearance of products with harmonious arrangement of functional and decorative materials, and to sketch plans and designs
- **Form perception** to observe detail in objects, materials and designs
- **Motor co-ordination and finger and manual dexterity** to cut, paint, fire and assemble pieces of stained glass to create designs for windows, lamp shades and other objects
- **Innovative interest in synthesizing** information and knowledge of production techniques to design and create stained glass for windows and decorative articles; and in creating miniature or model-sized designs with coloured paper for customers' approval
- **Objective interest in precision working** with artists' brushes, powdered colours and equipment to stain and paint pieces of coloured glass, to fire pieces of glass in kilns to harden colours, and to retouch glass between firings
- **Methodical interest** in indicating on designs where glass is to be cut and leaded, and in accenting mosaic designs by marking details and visual effects and in applying lead came and copper foil trims for soldering

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
2* Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools
H7 Fire, steam, hot surfaces

Discomforts
D3* Odours

Employment Requirements

Education/Training
5+, 6+

- Skills are often learned through apprenticeship with a master craftsman.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Glass Forming and Finishing Machine Operators and Glass Cutters (9413)

Jewellers, Watch Repairers and Related Occupations (7344)

Painters, Sculptors and Other Visual Artists (5136)

Remarks

*Physical Activities

- For this occupation, **Strength 3** (Medium) may also apply.

*Environmental Conditions

- For this occupation, **Discomforts D3** (Odours) may also apply.

5244.6 Stringed Instrument Makers

Stringed instrument makers use manual and artistic skills to design and make stringed musical instruments.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	3	2	2	4	2	2	2

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

081

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	3	4	1	2*

ENVIRONMENTAL CONDITIONS (EC)

L1, H3, D3*

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artisan
stringed instrument maker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to use hand and power tools, and apply knowledge of wood properties and instrument design to construct stringed instruments
- **Spatial and form perception** to select materials and use templates to lay out parts to be cut
- **Motor co-ordination** to soak and bend wooden strips over forms to shape instrument rims
- **Finger and manual dexterity** to cut and fit frets and install parts, to string instruments, and to pluck bow strings to test tonal quality and make changes to improve tone
- **Innovative interest in synthesizing** information and knowledge of the properties of wood, ebonite, metal and other materials to design and construct stringed instruments; may repair and restore instruments and bows
- **Objective interest in precision working** with machines to cut, shape, trim and drill parts, and to glue parts together using jigs, forms and clamps to form complete instruments
- **Methodical interest** in applying varnishes and lacquers and in buffing instruments to obtain finishes

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
3 Other sound discrimination

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
2* Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools

Discomforts
D3* Odours

Employment Requirements

Education/Training
5+, 6+

- Skills are often learned through apprenticeship with a master craftsman.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Musical instrument assemblers (in 9498
Other Assemblers and Inspectors)

Painters, Sculptors and Other Visual Artists (5136)

Remarks

*Physical Activities

- For this occupation, **Strength 3** (Medium) may also apply.

*Environmental Conditions

- For this occupation, **Discomforts D3** (Odours) may also apply.

5244.7 Weavers

Weavers use manual and artistic skills to design and make rugs, blankets, cloth and other handicrafts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	2	3	4	2	3	2

INTERESTS

IOM

DATA PEOPLE THINGS (DPT)

084

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	1	1	1*	2

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artisan
craftsperson
weaver

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the procedures of spinning and twisting yarns and fibres, and to use looms and pattern charts to weave products
- **Spatial perception** to set up looms according to pattern charts, customers' specifications or created designs to produce cloth and woven articles
- **Motor co-ordination** to move quickly and accurately to prevent and correct defective weaving, and to set up and adjust looms
- **Manual dexterity** to use the hands to thread materials through machine guides, and to install components such as gears, cams and shuttles in looms
- **Innovative interest in synthesizing** information and knowledge of yarn preparation and weaving techniques to create artistic designs in woven objects, and to produce woven articles
- **Objective interest in operating** looms or using the hands to interlace strips of flexible materials such as wool, cotton, silk, grass, bark and rawhide to make baskets, wreaths, wall hangings, clothing, rugs, blankets and other objects
- **Methodical interest** in manipulating and twisting warp strand ends together to prepare for weaving operations, and in counting number of filling and warp threads per square inch or centimetre to maintain specified weaving patterns

Physical Activities

Vision
2 Near vision

Colour Discrimination
1 Relevant

Hearing
1 Limited

Body Position
1 Sitting

Limb Co-ordination
1* Upper limb co-ordination

Strength
2 Light

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools

Employment Requirements

Education/Training
5+, 6+

- Skills are often learned through apprenticeship with a master craftsperson.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Self-employment

Similar Occupations Classified Elsewhere

Fabric-making occupations in manufacturing (in 9442 *Weavers, Knitters and Other Fabric-Making Occupations*)

Remarks

*Physical Activities

- For this occupation, Limb Co-ordination 2 (Multiple limb co-ordination) may also apply.

5244.8 Craft Instructors

Craft instructors teach manual and artistic skills used to design and make ornamental objects, pottery, stained glass, jewellery, rugs, blankets and other handicrafts.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	2	4	2	3	3	3	3	3

INTERESTS

DMO

DATA PEOPLE THINGS (DPT)

124

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, H3

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

craft instructor

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and convey the principles of design, characteristics of materials and production techniques
- **Verbal ability** to instruct students in craftmaking techniques, methods and procedures
- **Spatial perception** to evaluate the functional and decorative aspects of students' works
- **Directive interest** in **instructing** and demonstrating craftmaking techniques and production procedures
- **Methodical interest** in **co-ordinating** information to develop lessons appropriate for students' capabilities, and to gather working materials
- **Objective interest** in **operating** machinery and equipment, and using scissors, knives, wiring and glues to perform creative and constructive functions with various types of materials

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
1 Relevant

Hearing
2 Verbal interaction

Body Position
3 Sitting, standing, walking

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Hazards
H3 Equipment, machinery, tools

Employment Requirements

Education/Training
5+, 6+

- Skills are often learned through apprenticeship with a master craftsperson.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Artisan guilds
Colleges
Private studios
Recreational organizations
Self-employment

Similar Occupations Classified Elsewhere

Fabric-making occupations in manufacturing (in 9442 *Weavers, Knitters and Other Fabric-Making Occupations*)

Jewellers, Watch Repairers and Related Occupations (7344)

Other Instructors (4216)

Jewellers, Watch Repairers and Related Occupations (7344)

5244.9 Artistic Floral Arrangers

Artistic floral arrangers design floral arrangements.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	4	4	2	3	4	2	3	2

INTERESTS

IOS

DATA PEOPLE THINGS (DPT)

061

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	1	2	3	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1, D3*, D5*

EDUCATION/TRAINING

5+, 6+

Examples of Job Titles

artistic floral arranger

floral designer

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** and **spatial perception** to design bouquets, corsages, sprays, wreaths and other floral arrangements; and to apply knowledge of plants and social, religious and ethnic customs in developing floral designs
- **Motor co-ordination** and **manual dexterity** to cut, trim and arrange natural and artificial foliage and flowers and to decorate arrangements with accessories
- **Innovative interest** in **synthesizing** information to design bouquets, corsages, sprays, wreaths and other floral arrangements and to select natural and artificial flowers, foliage and decorative accessories to create arrangements and other floral items
- **Objective interest** in **precision working** with natural and artificial flowers, foliage and decorative accessories
- **Social interest** in **speaking** with customers to discuss floral settings and to suggest types of flowers, plants, floral arrangements and decorations appropriate for customers' requirements

Physical Activities

Vision

- 2 Near vision

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3 Sitting, standing, walking

Limb Co-ordination

- 1 Upper limb co-ordination

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate

Discomforts

- D3* Odours
- D5* Wetness

Employment Requirements

Education/Training

- 5+, 6+

- Skills are often learned through apprenticeship with a master craftsperson.
- Training programs are offered by artisan guilds, colleges and private studios.
- A college diploma in fine craft techniques may be required.
- Creative ability and talent, as demonstrated by a portfolio of work and knowledge of safe handling of material, tools and equipment are required.

Workplaces/Employers

Florist departments of retail establishments

Florist shops

Self-employment

Similar Occupations Classified Elsewhere

Floral arranger – retail (in 6421 *Retail Salespersons and Sales Clerks*)

Remarks

*Environmental Conditions

- For some occupations in this group, Discomforts D3 (Odours) and D5 (Wetness) may also apply.

5245 Patternmakers – Textile, Leather and Fur Products

Patternmakers in this group create master patterns for the production of garments, footwear and other textile, leather and fur products.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	3	2	2	4	2	2	2

INTERESTS

IMO

DATA PEOPLE THINGS (DPT)

381

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
2	0	1	4	1	1

ENVIRONMENTAL CONDITIONS (EC)

L1

EDUCATION/TRAINING

4, 5, 6

Examples of Job Titles

dress patternmaker
embroidery patternmaker
fur garment patternmaker
garment patternmaker
leather products patternmaker
shoe patternmaker
textile products patternmaker

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to apply the principles and techniques of patternmaking to create master patterns for the production of garments, footwear and other textile, leather and fur products
- **Spatial and form perception** to visualize articles from patterns and to examine sketches, samples of articles and specifications of designs to determine number, size and shape of pattern parts and amounts of cloth required
- **Motor co-ordination** to lay out master patterns on fabrics and cut sample patterns
- **Finger and manual dexterity** to draw, lay out and cut master patterns of products
- **Innovative interest** in creating pattern size variations from master patterns
- **Methodical interest** in **compiling** information to outline parts of patterns on paper and indicate details such as pockets, pleats and decorative stitching; and in marking size, identification, style, sewing instructions and other information on sample patterns
- **Objective interest** in **precision working** with computer and drafting instruments to create pattern size variations

Physical Activities

Vision
2 Near vision

Colour Discrimination
0 Not relevant

Hearing
1 Limited

Body Position
4 Other body positions

Limb Co-ordination
1 Upper limb co-ordination

Strength
1 Limited

Environmental Conditions

Location
L1 Regulated inside climate

Employment Requirements

Education/Training
4, 5, 6

- Completion of secondary school is required.
- Completion of a college program in design and patternmaking
or
one to two years of on-the-job training are required.
- Courses in computer-assisted patternmaking may be required.

Workplaces/Employers

Footwear manufacturers
Garment manufacturers
Leather, fur and textile products manufacturers
Pattern manufacturers
Self-employment

Occupational Options

Progression to supervisory positions is possible with experience.

Similar Occupations Classified Elsewhere

Supervisors, Fabric, Fur and Leather Products Manufacturing (9225)

5251 Athletes

Athletes participate in competitive sports events as amateurs or professionals. They play team sports such as hockey, baseball, football and lacrosse, and compete in individual sports such as skiing, figure skating, boxing and track and field.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	2	3	4	2	2	2

INTERESTS

Mdi

DATA PEOPLE THINGS (DPT)

241

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	2	4	2	3*

ENVIRONMENTAL CONDITIONS (EC)

L1, L2*, L3, L4*, H3*, H8*, D5*

EDUCATION/TRAINING

1+, 5+, 6+, 7+, R

Examples of Job Titles

athlete
baseball player
boxer
figure skater
football player
golfer
harness race driver
hockey player
jockey
skier
sprinter
track athlete

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to understand and apply the principles of physical fitness and the rules and regulations of a respective sport
- **Spatial ability** to visualize positions in relation to team members and opponents according to pre-game instructions
- **Motor co-ordination** to make rapid, precise movements
- **Finger and manual dexterity** to move fingers, hands and wrists skillfully in order to control equipment
- **Methodical interest** in attending scheduled practices and training sessions to increase effectiveness and to develop stamina
- **Directive interest** in **precision working** to train under the direction of a coach or trainer to develop the level of ability necessary for competition; and in **diverting** audiences while participating in local, regional, provincial, national and international competitions and sporting events
- **Innovative interest** in **analyzing** performances following competitions to identify weaknesses and strengths and devise new strategies for better performance

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 4 Other body positions

Limb Co-ordination

- 2 Multiple limb co-ordination

Strength

- 3* Medium

Environmental Conditions

Location

- L1 Regulated inside climate
L2* Unregulated inside climate
L3 Outside
L4* In a vehicle or cab

Hazards

- H3* Equipment, machinery, tools
H8* Dangerous locations

Discomforts

- D5* Wetness

Employment Requirements

Education/Training

1+, 5+, 6+, 7+, R

- Demonstrated ability in a particular sport is required.
- Extensive training under the supervision of a coach is required.
- Certification with a particular sports federation may be required.
- A background combining athletic training and college or university studies is strongly recommended.

Workplaces/Employers

Professional team organizations

Self-employment

Similar Occupations Classified Elsewhere

Coaches (5252)

Sports instructors (in 5254 *Program Leaders and Instructors in Recreation and Sport*)

Sports Officials and Referees (5253)

Remarks

*Physical Activities

- For some occupations in this group, **Strength** 4 (Heavy) may also apply.

*Environmental Conditions

- For some occupations in this group, **Location** L2 (Unregulated inside climate) and L4 (In a vehicle or a cab), **Hazards** H3 (Equipment, machinery, tools) and H8 (Dangerous locations) and **Discomforts** D5 (Wetness) may also apply.

5252.1 Coaches

Coaches prepare and train athletes and teams for competitive events.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	3	3

INTERESTS

DSM

DATA PEOPLE THINGS (DPT)

128

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	3*	0*	1*

ENVIRONMENTAL CONDITIONS (EC)

L1, L2*, L3, H3*, H8*, D5*

EDUCATION/TRAINING

5+, 7+, R

Examples of Job Titles

figure skating coach
football coach
gymnastics coach
head coach
hockey coach
national team coach
soccer coach
swimming coach
volleyball coach

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to identify strengths and weaknesses of athletes and teams; to plan, develop and implement training and practice sessions; and to formulate competitive strategy
- **Verbal ability** to understand and use sports terminology, and to communicate when directing athletes
- **Directive interest in co-ordinating** information to develop, plan and organize competitive schedules and programs; and in developing game plans and in directing athletes and players during athletic events
- **Social interest in instructing** athletes; and in nurturing and developing athletes' potential skills and abilities, and in motivating and preparing athletes and teams for competitive events
- **Methodical interest** in analyzing and evaluating athletic and team performance; and in modifying training programs

Physical Activities

Vision
3 Near and far vision

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
3* Sitting, standing, walking

Limb Co-ordination
0* Not relevant

Strength
1* Limited

Environmental Conditions

Location
L1 Regulated inside climate
L2* Unregulated inside climate
L3 Outside

Hazards
H3* Equipment, machinery, tools
H8* Dangerous locations

Discomforts
D5* Wetness

Employment Requirements

Education/Training
5+, 7+, R

- Completion of the National Coaching Certificate program is usually required for individual and team sport coaches in all sports.
- National Coaching Certificate Level 3 is usually required for provincial coaches.
- National Coaching Certificate Level 4 is usually required for coaches of national team athletes.
- A degree in physical education may be required.
- Experience in, and technical knowledge of the sport is required.

Workplaces/Employers

National and provincial sports organizations
Professional and amateur sports teams
Self-employment
Sports clubs and universities

Similar Occupations Classified Elsewhere

Athletes (5251)

Athletic therapists (in 3144 *Other Professional Occupations in Therapy and Assessment*)

Program Leaders and Instructors in Recreation and Sport (5254)

Sports Officials and Referees (5253)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions), **Limb Co-ordination 1** (Upper limb co-ordination) and **2** (Multiple limb co-ordination) and **Strength 2, 3, 4** (Light, Medium, Heavy) may also apply.

*Environmental Conditions

- For some occupations in this group, **Location L2** (Unregulated inside climate), **Hazards H3** (Equipment, machinery, tools) and **H8** (Dangerous locations) and **Discomforts D5** (Wetness) may also apply.

5252.2 Sports Scouts

Sports scouts identify and recruit athletes for professional sports teams.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	3	3

INTERESTS

MSD

DATA PEOPLE THINGS (DPT)

218

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
3	0	2	1	0	1

ENVIRONMENTAL CONDITIONS (EC)

L1, L3

EDUCATION/TRAINING

2+

Examples of Job Titles

football scout
hockey scout
sports scout

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to identify and recruit developing athletes for professional sports teams, and to recognize and evaluate athletic potential in talented individuals
- **Verbal ability** to communicate when negotiating to obtain the services of players
- **Methodical interest** in observing athletes' skills and performance, reviewing their past records, and filing reports on scouting assessments and recommendations with professional team employers
- **Social interest** in negotiating with players and their managers to arrange contracts
- **Directive interest** in analyzing and evaluating prospective athletes' fitness, skills and performance

Physical Activities

Vision

- 3 Near and far vision

Colour Discrimination

- 0 Not relevant

Hearing

- 2 Verbal interaction

Body Position

- 1 Sitting

Limb Co-ordination

- 0 Not relevant

Strength

- 1 Limited

Environmental Conditions

Location

- L1 Regulated inside climate
L3 Outside

Employment Requirements

Education/Training

2+

- Experience in, and technical knowledge of the sport is required.

Workplaces/Employers

Professional sports organizations

Similar Occupations Classified Elsewhere

Athletes (5251)

Athletic therapists (in 3144 *Other Professional Occupations in Therapy and Assessment*)

Program Leaders and Instructors in Recreation and Sport (5254)

Sports Officials and Referees (5253)

5253 Sports Officials and Referees

Sports officials and referees observe and enforce rules and regulations governing sporting events, athletic games and sports competitions.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	2	3	4	4	4	4

INTERESTS

MDs

DATA PEOPLE THINGS (DPT)

268

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	1	2	3*	1*	2

ENVIRONMENTAL CONDITIONS (EC)

L1, L2, L3

EDUCATION/TRAINING

5, R

Examples of Job Titles

athletics judge
clerk of the course – racetrack
figure skating judge
goal judge
harness racing starter
racetrack timer
referee
sports linesman/woman
sports official
umpire

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to officiate at sporting events and athletic competitions to maintain standards of play and ensure that game rules and safety regulations are observed
- **Spatial perception** to observe actions of participants and detect infractions of rules
- **Methodical interest** in **signalling** to start and stop games; and in recording lapsed time and keeping scores during events, in compiling scores and other athletic records, and in verifying credentials of athletes and animals engaged in sports and related special events
- **Directive interest** in **analyzing** the performance of competitors to award points, impose penalties for infractions and determine results; and in observing and enforcing rules and regulations governing sporting events, athletic games and sports competitions and in responding to written protests
- **Social interest** in establishing and maintaining rapport with coaches, players and organizing committees, and in conferring with opposing teams and players when required to settle disputes

Physical Activities

Vision

- 4 Total visual field

Colour Discrimination

- 1 Relevant

Hearing

- 2 Verbal interaction

Body Position

- 3* Sitting, standing, walking

Limb Co-ordination

- 1* Upper limb co-ordination

Strength

- 2 Light

Environmental Conditions

Location

- L1 Regulated inside climate
L2 Unregulated inside climate
L3 Outside

Employment Requirements

Education/Training

5, R

- Sports officials require certification by and registration with a sport governing body or commission.
- Sports referees require completion of an officiating program offered by a sport governing body.

Workplaces/Employers

National, provincial and local sporting commissions, organizations and leagues

Similar Occupations Classified Elsewhere

Coaches (5252)

Program Leaders and Instructors in Recreation and Sport (5254)

Remarks

*Physical Activities

- For some occupations in this group, **Body Position 4** (Other body positions) and **Limb Co-ordination 2** (Multiple limb co-ordination) may also apply.

5254 Program Leaders and Instructors in Recreation and Sport

Program leaders and instructors in recreation and sport lead and instruct groups and individuals in recreational, sports, fitness and athletic programs.

Profile Summary

APTITUDES

G	V	N	S	P	Q	K	F	M
3	3	4	3	3	4	3	3	3

INTERESTS

MSi

DATA PEOPLE THINGS (DPT)

124

PHYSICAL ACTIVITIES (PA)

V	C	H	B	L	S
4	0	2	4	2	3*

ENVIRONMENTAL CONDITIONS (EC)

L1, L2*, L3, D5*

EDUCATION/TRAINING

4+, 6+, R

Examples of Job Titles

aerobics instructor
camp counsellor
day camp leader
fitness instructor
gymnastics teacher
lifeguard
playground worker
recreation program leader
riding instructor
ski instructor
ski patrol
swimming instructor – sports

Descriptor Profile

Main Characteristics

Occupations in this group are characterized by the following aptitudes, interests and worker functions as they relate to main duties:

- **General learning ability** to plan and carry-out recreational, athletic, fitness and sports activities, to understand the social and recreational needs of the community and to enforce safety rules and regulations
- **Verbal ability** to communicate lifestyle-awareness information
- **Motor co-ordination** to demonstrate and instruct athletic, fitness and sports activities and techniques
- **Methodical interest in manipulating** and assembling supplies and sports and game equipment; and in monitoring recreational and sports activities to ensure safety and provide emergency and first aid assistance when required
- **Social interest in instructing** groups and individuals in arts, crafts and similar activities; in leading groups and individuals in recreational and leisure programs, and in attending clients with special needs by conducting therapeutic recreational and athletic activities
- **Innovative interest in co-ordinating** information to plan recreational, athletic, fitness and sports programs

Physical Activities

Vision
4 Total visual field

Colour Discrimination
0 Not relevant

Hearing
2 Verbal interaction

Body Position
4 Other body positions

Limb Co-ordination
2 Multiple limb co-ordination

Strength
3* Medium

Environmental Conditions

Location
L1 Regulated inside climate
L2* Unregulated inside climate
L3 Outside

Discomforts
D5* Wetness

Employment Requirements

Education/Training
4+, 6+, R

- Completion of secondary school education is usually required.
- Completion of a college program in recreation or physical education or extensive experience in a specific recreational or sports program activity is usually required.
- Demonstrated ability in a particular recreational or sports discipline is required.
- Certification is usually required in a specific area of recreational activity, athletic activity, first aid or emergency care, such as a swimming or ski instructor's certificate, or a first aid or fitness leadership certificate.

Workplaces/Employers

Community centres
Correctional institutions
Medical institutions
Outdoor centres
Recreational facilities
Resorts
Sports and fitness clubs

Similar Occupations Classified Elsewhere

Other Instructors (4216)

Recreation and Sports Program and Service Directors (0513)

Recreation and sports supervisors (in 4167 *Recreation, Sports and Fitness Program Supervisors and Consultants*)

Remarks

*Physical Activities

- For some occupations in this group, **Strength 4 (Heavy)** may also apply.

*Environmental Conditions

- For some occupations in this group, **Location L2 (Unregulated inside climate)** and **Discomforts D5 (Wetness)** may also apply.



The

Canada

Second Edition
(Révisé)

Handbook

Career

NATIONAL
OCCUPATIONAL
CLASSIFICATION

Human Resources
Development Canada

Le Guide
des
carrières
2002

Deuxième édition
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Guide sur
les carrières

CLASSIFICATION
NATIONALE DES
PROFESIONS

Developpement des
ressources humaines Canada

via

Career Handbook

Second Edition

The *Career Handbook* is the counselling component of the National Occupational Classification (NOC) system. The Second Edition reflects the revisions made to the classification system in 2001.

The updated *Career Handbook* provides 923 occupational profiles for counselling based on NOC 2001 occupations and maintains the original descriptor scales, factors and presentation format. It includes information on aptitudes, interests, data/people/things interactions, physical activities, environmental conditions, education/training indicators, career progression and work settings.

The *Career Handbook* provides global ratings assigned to occupations to further define skills, worker characteristics and other indicators related to occupations that are important for career exploration and informed career decision-making. This counselling resource is used by a wide range of professionals for many applications, and by individuals engaged in self-directed career planning.